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VERIFICATION AND FEASIBILITY STUDY
OF A MICRO-COMPUTER BASED
BALLISTICS ALGORITHM

John Thomas Ertlschweiger

NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

VERIFICATION AND FEASIBILITY STUDY
OF A MICRO-COMPUTER BASED
BALLISTICS ALGORITHM

by

John Thomas Ertlschweiger II

December 1976

Thesis Advisor: U. R. Kodres

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Verification and Feasibility Study of a Micro-Computer Based Ballistics Algorithm

by

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Lieutenant, United States Navy
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Submitted in partial fulfillment of the requirements for the degree of

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from the

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December 1976

ABSTRACT

The radical cost reductions in computer hardware brought about by large scale integration (LSI) has motivated this feasibility study which explores the use of the INTEL 8080 as a ballistics computer in a distributed micro-computer based airborne tactical weapons system.

The results show that software floating point arithmetic using a sixteen bit mantissa is sufficiently accurate for solving the ballistics problem.

Experimental data failed to show that the mathematical model accurately predicts the weapon's behavior. Either the instrumentation to record the release data was inaccurate, or the ballistics tables do not accurately predict the actual behavior of falling weapons.

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I. INTRODUCTION

Military airborne tactical weapon systems have been designed and implemented primarily to aid the aircrew in performing their mission with accuracy and speed. This usually means that a shorter time is spent over target which increases the survivability of both the weapon systems platform and the aircrew.

The system presently employed on board the A6E, one of the Navy's attack aircraft, utilizes an IBM 4 PI series mini-computer to perform two major functions.

1. Navigation.
2. Solution of the ballistics problem.

In addition, several other related functions are performed by the system.

3. It provides steering commands.
4. It provides real-time display of sensor information.
5. It provides release pulses to the weapon at the appropriate time.

A. FEASIBILITY STUDY

This thesis will attempt to prove the feasibility of implementing an airborne tactical weapons system using

micro-computers. Two important questions must be answered in order to establish the feasibility of using a micro-computer in a tactical weapons system:

1. Is the micro-computer accurate enough?
2. Is the micro-computer fast enough?

The accuracy problem was approached by executing the ballistics algorithm on an IBM system 360 using a 21 to 24 bit mantissa in the standard floating point format and comparing the results of the same algorithm executed on an INTEL 8080 micro-processor with a 16 bit floating point mantissa. The question of speed was answered by executing the ballistics algorithm for numerous weapon types and initial conditions and observing the elapsed clock time.

B. VERIFICATION

The second aspect of this thesis was to verify that the ballistics algorithm corresponded to published tables as well as experimental data. The NAVAIR 01-1C-1T-1 ballistics tables were used to compare time of fall and down range travel against the results of the FORTRAN version of the ballistics algorithm. A total of 1813 different initial release conditions were examined spanning 18 different weapon types, various dive angles from +10 degrees to -60 degrees, altitudes from 500 feet to 15,000 feet, and air-speeds from 300 knots to 650 knots.

The source of experimental data was a set of data cards recorded by the bombardiers of an A-6E squadron over a period of one year. The data for each bomb drop consists of 24 various computer readouts at the instant the weapon is released from the aircraft as well as the hit coordinates of the weapon. This information is used to determine the initial conditions for the ballistics equations. Unfortunately a critical parameter, the dive angle, was recorded only to the nearest degree. Consequently an error analysis was conducted to determine the maximum error which could be expected from the rounding of the output data.

C. PRESENTATION OF THE THESIS

Chapter II explains the organization of a distributed micro-computer airborne tactical weapons system and discusses how the output of each subsystem is integrated with the entire system. The ballistics problem and the derivation of the differential equations used to describe the mathematical model are discussed in detail in Chapter III. Since no analytical solution exists for these equations, a simplified version of the model is solved analytically to gain insight.

Chapter IV explores the feasibility of using microprocessors in an airborne tactical weapons system.

Aspects of accuracy and speed are examined. Factors in attempting verification of the ballistics algorithm and experimental data with the NAVAIR 01-1C-1T-1 ballistics tables are contained in Chapter V.

Chapter VI presents the results of this thesis. The conclusions and recommendations of the author concerning this thesis are written in Chapter VII.

Appendix A contains the output from the FORTRAN program comparing the FORTRAN and PLM versions of the ballistics algorithm. Appendix B presents the same comparison between the FORTRAN version of the ballistics algorithm and the ballistics tables. Appendix C is a listing of the experimental data as they were recorded from the cockpit readouts of various A-6E aircraft. Appendices D and E are the results of the experimental delivery data compared against the FORTRAN version of the ballistics algorithm (approximating the ballistics tables), using two sets of drag coefficients.

The ballistics algorithm used in this thesis is the SIGMA version of the BOEING ALGORITHM modified by the Naval Weapons Laboratory at China Lake, California. The algorithm was further modified at the Naval Postgraduate School in Monterey, California for eventual implementation on the ballistics processor of the multiple micro-processor tactical weapons system.

II. BACKGROUND

To provide a better understanding of the role the ballistics processor plays in the multiple processor system, a brief overview of the proposed system will be discussed. The computer system is composed of three microprocessors: a navigation computer, a ballistics computer, and an executive computer. Each machine is dedicated to the process to which it is assigned instead of sharing resources of a single processor as in the present operational systems.

A. THE NAVIGATION COMPUTER

The navigation computer is a basic element to all tactical systems. In present operational systems, the navigation program is executed periodically to update the present position by the change in position since the last time increment. The navigation computer utilizes input from four major sensor instruments as its primary source of information.

1. The Inertial Navigation System.
2. The Doppler Radar.
3. The Air Data Computer.
4. The Search Radar.

The inertial navigation system provides heading (azimuth), attitude (roll and elevation), and velocity increments in the X, Y, and Z directions. The doppler radar is a velocity sensor that utilizes the doppler shift principle to measure ground track speed and drift angle. The ground speed and drift angle derived from the doppler radar along with the true heading from the inertial navigation system are used to calculate the direction and magnitude of the wind. The air data computer uses the ambient static pressure and ram air pressure from the pitot tube to calculate corrected static pressure, pressure altitude, and mach number. Outputs from the air data computer are used to damp the raw velocities from the inertial system. The search radar provides target aximuth, range, and elevation signals to the navigation computer. The search radar elevation along with the aircraft elevation from the inertial system are used to measure the radar depression angle (look down angle to target from flight path vector). The depression angle and search radar slant range are used to compute ground distance to the target independent of altitude.

As the navigation computer calculates new incremental distances for each time increment, the present position is continuously updated. After each update, the executive computer is interrupted and the current value is passed to

it. If the navigation computer is functional, the aircrew will have current present position information independent of the status of the executive computer.

B. THE BALLISTICS COMPUTER

The ballistics computer is provided with the most current estimates of position and velocity of the aircraft. It is also provided with the weapon type selected by the aircrew. The ballistics algorithm computes the down range travel and time of fall for the weapon based on the airspeed, dive angle and altitude of the aircraft. The ballistics algorithm will be discussed in depth in Chapter III.

C. THE EXECUTIVE COMPUTER

The executive computer displays the information generated by both the ballistics and navigation computers. The executive computer is also responsible for issuing steering commands to the autopilot and firing pulses to the weapons release mechanism. The most important task the executive computer performs is to extrapolate a predicted weapon release point based on a time history of the position and velocity of the aircraft. Thus, even though the other two computers can operate independently, the aircrew cannot make a computer delivery without the executive computer.

D. THE COMMUNICATIONS SCHEME

Because of the inherent hierarchy between the computers involved, the master-slave type of multiprocessing is the most suitable and simple form to implement. The navigation and the ballistics computers act as peripheral devices of the executive computer, resulting in a one way interrupting scheme. The only computer which has to be interrupted is the executive computer. The navigation and ballistics computers are the dedicated slaves which asynchronously interrupt the executive computer.

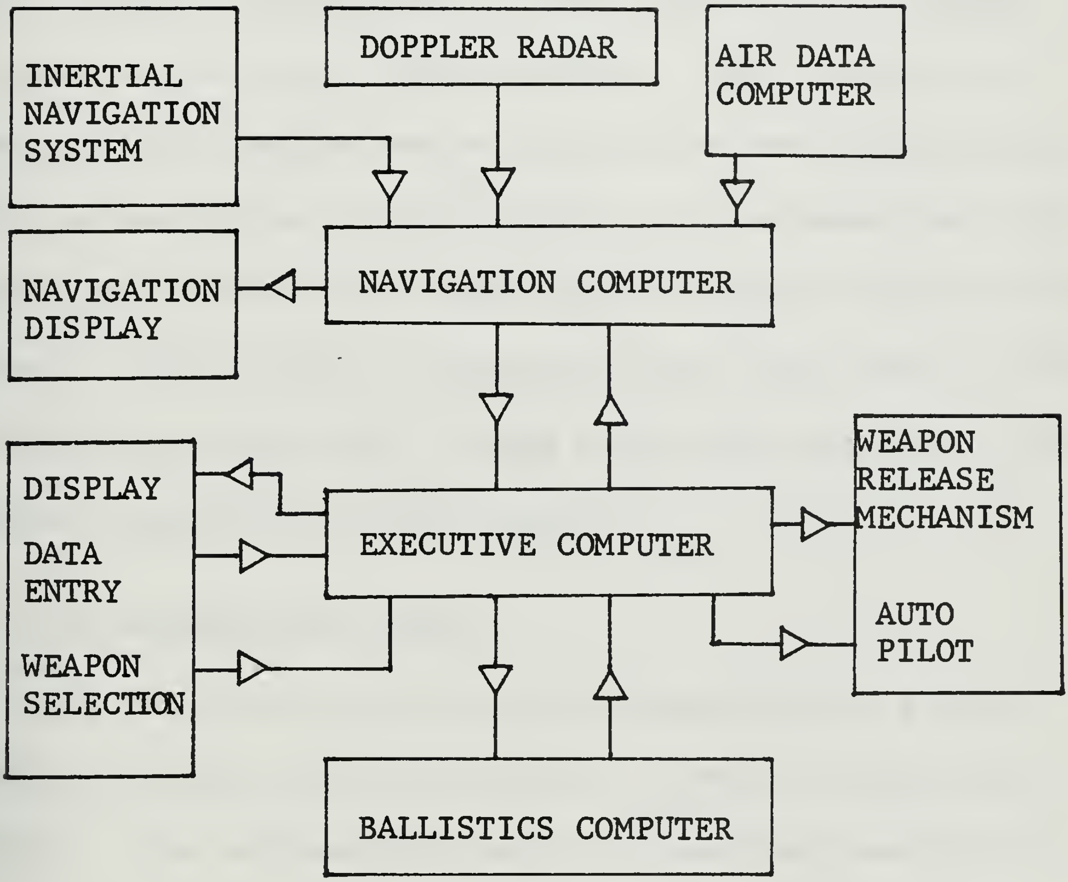

FIGURE 1. ORGANIZATION OF MULTIPLE PROCESSOR AIRBORNE TACTICAL WEAPONS SYSTEM

III. BALLISTICS PROBLEM

Since the earliest days of aerial warfare, the heart of the ballistics problem has been to drop a bomb from an airborne weapon platform and to consistently hit a target. The problem still exists today; however, with the aid of a computer the problem can be quickly and accurately solved. This necessitates the development of a mathematical model which approximates the actual path a weapon travels through space. Statistically, projectiles have been shown to follow predictable paths which behave very much like freely falling bodies described by Isaac Newton.

A. THE MATHEMATICAL MODEL

The ballistics problem can be described as a body falling through space according to Newton's second law of motion. The mathematical model or equation governing the trajectory of a ballistics projectile is a second order differential equation:

$$ma = mg - c\,|v|v \tag{1}$$

where: m = mass of the body

a = acceleration vector

g = acceleration due to gravity

c = drag coefficient

v = velocity vector

The term $c(|v|v)$ is the drag due to the air resistance of the body and is proportional to the square of the velocity.

At the time the projectile is released from the aircraft it will have an initial position and velocity. The differential equation together with the initial conditions uniquely determines the trajectory of the projectile.

This particular mathematical model was chosen for two reasons:

1. It approximates reality accurately.
2. The Navy publishes range and time of fall information in tables (NAVAIR 01-1C-1T-1) which uses this model.

The latter is the primary reason for using the ballistics tables as a standard or guideline in the verification of any new mathematical models or program implementations.

B. BASIC ASSUMPTIONS

Unfortunately there is no known analytical solution for this set of differential equations. However, a simpler problem does have an analytical solution. Thus, for the sake of simplicity and to aid in the discussion of this solution, let us first assume:

1. Level, non-accelerated flight.
2. Bombs are not ejected from the bomb rack.
3. No forward firing ordnance.
4. Drag/wind resistance is negligible.
5. Time of release is time = 0.

In addition, this discussion also assumed:

6. The Earth is flat and non-rotating.
7. The gravitational attraction, g, is constant.

C. DERIVATION OF DOWN RANGE TRAVEL

Rewriting equation (1) with respect to the time derivatives of the position vector, say u, the equation becomes:

$$m\ddot{u} = mg - c\,|\dot{u}|\,\dot{u} \tag{2}$$

By letting u = (x,y), equation (2) is transformed into a system of two equations describing motion in a two dimensional coordinate system.

$$m\ddot{x} = \left[-c\sqrt{\dot{x}^2 + \dot{y}^2}\right]\dot{x} \tag{3}$$

$$m\ddot{y} = -mg - \left[c\sqrt{\dot{x}^2 + \dot{y}^2}\right]\dot{y} \tag{4}$$

Initial conditions for the system are derived from the release position and velocity vectors of the aircraft:

Position	Velocity
$x(t_0) = r_x(t_0)$	$\dot{x}(t_0) = \dot{r}_x(t_0)$
$y(t_0) = r_y(t_0)$	$\dot{y}(t_0) = \dot{r}_y(t_0)$

As a result of the assumption that air resistance is negligible and the aircraft's velocity and position determine the initial conditions, equations (3) and (4) are simplified to

	initial conditions	
$m\ddot{x} = 0$	$\dot{x}(0) = \dot{r}_x(0)$	$x(0) = r_x(0)$
$m\ddot{y} = -mg$	$\dot{y}(0) = \dot{r}_y(0)$	$y(0) = r_y(0)$

The solution of these two equations is obtained by dividing by the constant m, integrating twice with respect to time, and solving for the constants of integration.

$$\int \ddot{x}(t)\, dt = \int 0\, dt \quad \Rightarrow \quad \dot{x}(t) = c_1$$

$$\int \dot{x}(t)\, dt = \int c_1\, dt \quad \Rightarrow \quad x(t) = c_1 t + c_2$$

when $t = 0$:

$$c_1 = \dot{x}(0) = \dot{r}_x(0)$$

$$c_2 = x(0) = r_x(0)$$

therefore,

$$x(t) = \dot{r}_x(0)\, t = r_x(0) \tag{5}$$

where:

$x(t)$ = total down range travel after release.

$r_x(0)$ = initial displacement $x(0)$ of weapon at the time of release, usually 0.

$\dot{r}_x(0)t$ = down range travel due to initial velocity.

$$\int \ddot{y}(t)\,dt = \int -g\,dt \quad \Rightarrow \quad \dot{y}(t) = -gt + c_1$$

$$\int \dot{y}(t)\,dt = \int -gt+c_1\,dt \quad \Rightarrow \quad y(t) = -\tfrac{1}{2}gt^2 + c_1 t + c_2$$

when $t = 0$: $\quad c_1 = \dot{y}(0) = \dot{r}_y(0)$

$$c_2 = y(0) = r_y(0)$$

therefore,

$$y(t) = -\tfrac{1}{2}gt^2 + \dot{r}_y(0)t + r_y(0) \tag{6}$$

where:

$y(t)$ = the height above the ground at any time t.

$r_y(0)$ = initial altitude $y(0)$ of weapon at time of release.

$\dot{r}_y(0)t$ = altitude loss/gain due to aircraft's initial vertical velocity.

$-\tfrac{1}{2}gt^2$ = altitude lost due to gravity.

If the time from weapon release to weapon impact, or time of fall, is known, the ballistics problem is reduced to determining the down range travel, $x(t^*)$, given its initial-velocity, $\dot{r}_x(0)$ and the time of fall, t^*. Time of

fall can be found by setting equation (6) to 0 and solving for the positive root of t.

$$-\tfrac{1}{2}gt^2 + \dot{r}_y(0)t + r_y(0) = 0$$

Using the quadratic formula:

$$t^* = \left[-b \; - \sqrt{b^2 - 4ac}\,\right] / \; 2a$$

where:

$$a = -g/2$$

$$b = \dot{r}_y(0)$$

$$c = r_y(0)$$

$$t^* = \frac{\dot{r}_y(0) + \sqrt{(r_y(0))^2 + 2gr_y(0)}}{g}$$

By substituting time of fall, t^*, into equation (5)

$$x(t^*) = \dot{r}_x(0)t^* + r_x(0)$$

down range travel, DRT, can be calculated.

$$DRT = x(t^*) = \dot{r}_x(0) \quad \frac{\dot{r}_y(0) + \sqrt{(\dot{r}_y(0))^2 + 2gr_y(0)}}{g} + r_x(0)$$

Since the coordinate system is arbitrarily placed, assume initial displacement, $r_x(0)$, to be zero at the time of release. Also, since level non-accelerated delivery is

assumed, initial vertical velocity, $\dot{r}_y(0)$, is zero. The expression for down range travel now becomes:

$$DRT = \dot{r}_x(0) \sqrt{\frac{2r_y(0)}{g}}$$

In reality the problem must take into account the constraints placed on the problem earlier. Wind, drag, vertical velocity, and non-level delivery prarmeters make the solution more difficult. Solution in this case is accomplished numerically using a second order Runge-Kutta scheme on a digital computer.

IV. MICRO-COMPUTERS IN AIRBORNE TACTICAL WEAPON SYSTEMS

The question of whether or not micro-computers are feasible in an airborne tactical weapon systems environment was approached by first translating the ballistics algorithm into two high level languages, FORTRAN and PLM. (See Ref. 3). The FORTRAN version was executed on the IBM system 360 and the PLM version was executed on the INTEL 8080 micro-processor. Thus, if the same algorithm is executed on two different machines, the INTEL 8080, whose floating point mantissa has 16 bits and the IBM 360, whose floating point mantissa has 21-24 bits, then the differences in results can only be attributed to the difference in the precision of the two machines.

A. THE QUESTION OF ACCURACY

The solution of the ballistics problem requires solving a set of four differential equations numerically on a digital machine. This necessitates numerous arithmetic operations, including multiplication and division.

Since micro-computers presently lack hardware multiply and divide functions, a software package capable of performing floating point arithmetic operations must be used. However, this requires a significant amount of additional

computing time in the solution of the ballistics problem. As a result an alternate design in computer architecture was explored which utilizes three INTEL 8080 micro-processors instead of one, as in the mini-computer systems. In this multiple micro-processor system, each processor is dedicated to each of the primary functions of the system: executive, navigation, and ballistics computations.

The floating point mathematical package used in conjunction with the ballistics micro-processor uses a three byte binary representation with a 16 bit mantissa and an 8 bit exponent. The mantissa is left justified so that the most significant bit is always on and need not be stored, giving a full 16 bits of precision. The exponent is expressed as a power of 2 where the most significant bit serves as the sign bit. This three byte number is used instead of a conventional four byte scheme in order to reduce the time needed to perform the calculations necessary to solve the ballistics problem.

IBM's system 360 computer utilizes a four byte floating point hexadecimal number with a 21 to 24 bit mantissa and an 8 bit exponent. Since this method requires the first byte to have the value 1 to F (hexadecimal), the precision of the mantissa can vary between 21 bits (when the leading three bits are zero) and 24 bits. The exponent is expressed

as a power of 16 and also contains the sign bit. An obvious advantage the IBM 360 has is that it does floating point arithmetic in hardware which makes it approximately two orders of magnitude faster than the software version.

The INTEL 8080 micro-computer uses 8 bit operations and has the option of using double precision (16 bit) operations. The double precision operation permits multiplications and division to be performed as sequences of 16 bit additions and subtractions. Then, if the mantissa is kept left justified (16 bit precision), the double precision feature can be used to maintain 16 bits of precision throughout the calculation. If more precision is desired, such as 21 or 24 bits of precision, a quantum jump in execution time can be expected because of the additional computer cycles required.

It is the intention of this thesis to show that the loss of one byte of precision will not significantly affect the results of the ballistics solution. The accuracy with which a weapon is delivered depends greatly upon the accuracy and precision of the sensor supplied information. The loss of one byte of precision only affects the sixth most significant digit which is an order of magnitude more precise than most of the input sensors on board attack aircraft. This then is the motivation to compare the

results of a FORTRAN ballistics algorithm executed on the IBM system 360 with the same algorithm translated into PLM and executed on the INTEL 8080 micro-computer.

B. THE QUESTION OF SPEED

The second area of interest is the question of speed. At the time this thesis was written, an LSI (large scale integration) "chip" existed which could perform the floating point multiply and divide operations at the cost of $270. However, due to budgetary constraints this equipment was not readily available for experimentation. The hardware floating point "chip" can execute approximately 100 times faster than the software floating point package. For example, a multiply operation in the software package takes approximately 600 microseconds to execute whereas the hardware package executes a multiplication in 6 microseconds. A hardware multiply and divide operator was also developed and constructed as a micro-computer course project at the Naval Postgraduate School and was demonstrated to function at 60 microseconds.

By interrupting the program during execution and recording the location of the program address register, it was determined that the ballistics program spends about 92% of its execution time in the floating point package. According

to Jupin (Ref. 3) the execution time of each solution was proportional to the calculated time of fall. These results were confirmed by executing nearly 1800 separate calculations. The time to calculate the predicted release point proved to be about 10% of the calculated time of fall. Linhares (Ref. 2) was able to show that the ballistics algorithm was fast enough for certain initial conditions, however for high airspeeds and low altitude release conditions his extrapolation technique was not usable.

A substantial amount of the time the program spends in the floating point package (about 92%) is spent in the multiply and divide procedures. Using either the commercially produced "chip" or the locally constructed hardware multiply and divide operator, a significant reduction in execution time would result. Although this thesis will not answer the question of speed with an unqualified yes, it supports the finding that the ballistics processor is fast enough.

TRIAL	TOTAL NUMBER OF INTERRUPTS ATTEMPTED	NUMBER OF INTERRUPTS PROGRAM WAS IN FLOATING POINT PACKAGE	PER CENT OF TIME PROGRAM SPENT IN FLOATING POINT PACKAGE
1	323	289	89.5
2	343	319	92.0
3	367	346	94.3
TOTAL	1033	954	92.4

TABLE 1. AMOUNT OF TIME BALLISTICS PROGRAM SPENDS IN THE FLOATING POINT PACKAGE

V. VERIFICATION OF DOWN RANGE TRAVEL

Two separate verifications of down range travel were made, using the ballistics tables as a "standard." First, the FORTRAN and PLM versions of the mathematical model, previously discussed, were tested against the ballistics tables. Second, observed data was compared against the FORTRAN version for accuracy in time of fall and down range travel. The FORTRAN version was executed on the IBM 360 (32 bit machine), while the PLM version was executed on the INTEL 8080 micro-computer utilizing a 24 bit floating point mathematical package on an 8 bit machine.

A. THE BALLISTICS ALGORITHM - FORTRAN VS. PLM

A straight forward comparison between the FORTRAN version and the PLM version of the ballistics algorithm was made contrasting the down range travel and time of fall. An input/output interface was written to the PLM program so that data could be read from a floppy disk and the results written onto the same device. The floating point package was also modified in order to execute on the INTEL 8080 and a logic error in the multiply procedure was corrected. The FORTRAN program (Ref. 3) was virtually unchanged, however a statement was added to the TRAJ subroutine to

patch a logic error affecting the second stage trajectory calculation.

B. OBSERVED DATA VS. BALLISTICS TABLES

Since the ballistics tables are considered a "standard" against which various types of ballistics results are compared for validity, a comparison between observed results, obtained from the A6-E experimental data, and the ballistics tables (NAVAIR 01-1C-1T-1) was desired to establish a correlation between the two. However, several problems were encountered in making the comparison.

1. Predicted Down Range Travel

The initial conditions of the observed data are not compatible with those of the ballistics tables. The observed data has initial conditions composed of various dive angles, altitudes, and airspeeds, whereas the ballistics tables' initial conditions are multiples of 50 and 100 for altitude and airspeed, and zero for dive angle (only considering level delivery). Two apparent solutions to this difficulty are (1) the error sensitivity tables and (2) interpolation of the ballistics tables. However, both have disadvantages.

The error sensitivity tables failed to help because the corrections are based on maintaining a constant sight

line (mil setting) rather than keeping down range travel constant. For example, in a level delivery situation the error sensitivities table assumes a constant sight line and varies the down range travel by affecting corrections to the altitude. Therefore, if the altitude is higher than planned and the sight line is maintained, the hit will be short. However, the problem using observed data requires a constant down range travel to target, applying correction for altitude and airspeed. Therefore, the error sensitivity tables could not effectively be used in this case.

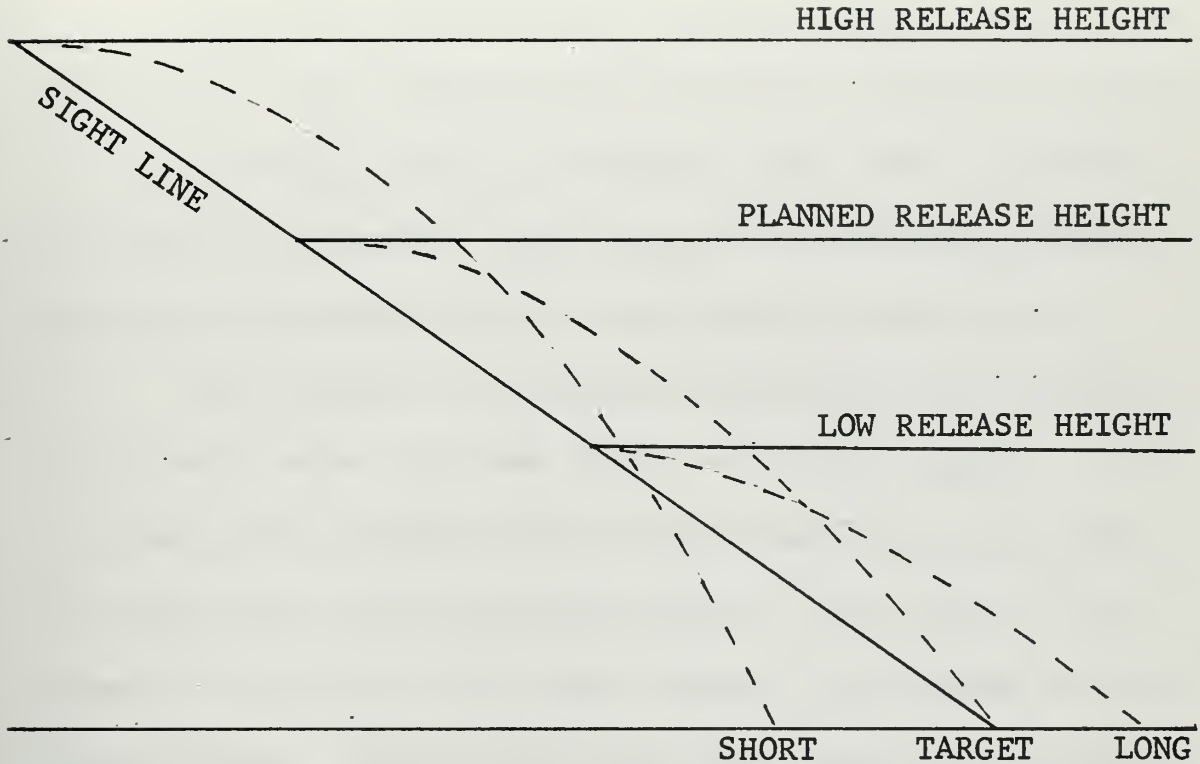

FIGURE 2.
EFFECTS OF BALLISTICS TABLES ERROR SENSITIVITIES FOR HEIGHT

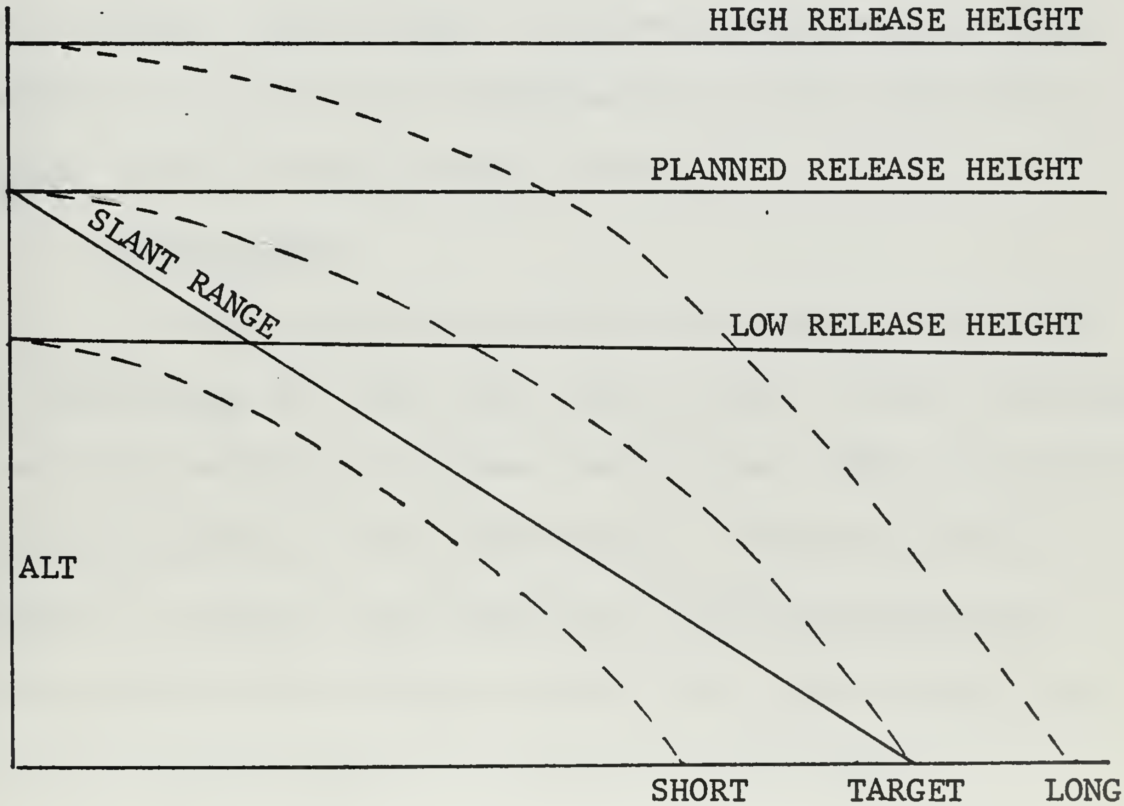

FIGURE 3. DESIRED ERROR SENSITIVITIES FOR BALLISTICS PROBLEM

The ballistics tables are not linear. Second and even third order interpolation would be required to determine down range travel on anything other than a cardinal altitude or airspeed. This process is extremely tedious and time consuming and was abandoned as impractical.

As a result, an accurate substitute for the ballistics table value for down range travel was sought. Using the ballistics tables for the MK-76 mod-5 practice bomb, 96 data points were selected from all dive angles, airspeeds, altitudes, and tested against the FORTRAN ballistics program. Time of fall and down range travel compared favorably with a mean error of 0.23% for down range travel and 0.11% for time of fall. This was considered accurate enough to be used as an approximation for the ballistics tables' value for down range travel.

2. Wind Effect

The wind plays an important and rather subtle role in determining the total down range travel. First, assuming a no wind condition, the down range travel, DRT, is computed in the direction of the true heading. Since no wind is present to deflect the projectile, the true heading and ground track will coincide and the down range travel along the true heading and ground track will be equal.

Now consider the wind. If a coordinate system (x,y,z) is introduced such that the air does not move with respect to the coordinate system, then an aircraft in this air mass has velocity with respect to the air mass and its heading will be the true heading. Because the air mass moves with respect to the ground with the wind velocity, $w = (w_x, w_y, w_z)$, the Earth fixed coordinate system (x',y',z') is related to (x,y,z) by the following equations:

$$x' = x + w_x t$$
$$y' = y + w_y t$$
$$z' = z + w_z t$$

Considering only the horizontal wind, the vertical wind, w_z, becomes zero. Down range travel can now be determined given an initial altitude, z, and air velocity, V, and will be in the direction of the true heading. To determine the point (x',y') in the Earth fixed coordinate system at which the weapon lands requires:

$$x' = x(tof) + w_x * (tof)$$
$$y' = y(tof) + w_y * (tof)$$

For example, given the same initial conditions, down range travel will be computed, as before, in the direction of the true heading. However the aircraft will drift with the

wind and will actually move across the ground on a different heading, called ground track. Since DRT is computed along true heading, the projection of DRT onto the ground track is that distance the projectile will travel due to the initial conditions alone.

PROJECTED DRT = cos(TH-GT) * DRT

The down range component (along the ground track) of DRT due to wind is computed as follows:

X-COMP = -cos(WDIR-TH) * WKTS * TOF 1.6867

where:

X-COMP = down range component of DRT due to wind

WDIR = true wind direction

TH = true heading

WKTS = wind speed in knots

TOF = time of fall in seconds

1.6867 = conversion from knots to ft/sec

This distance added to the PROJECTED DRT gives the WIND CORRECTED DRT which is the total DRT the projectile will travel in a moving air mass.

WIND CORRECTED DRT = X-COMP + PROJECTED DRT

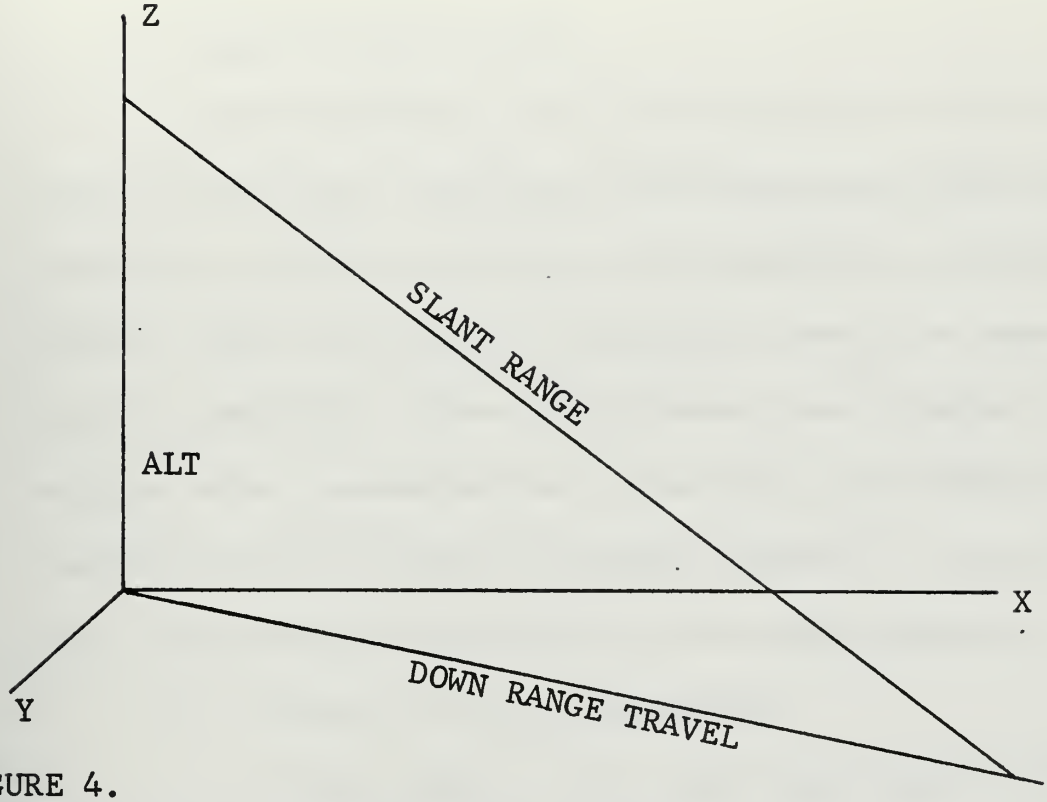

FIGURE 4.
NO WIND SOLUTION TO DOWN RANGE TRAVEL

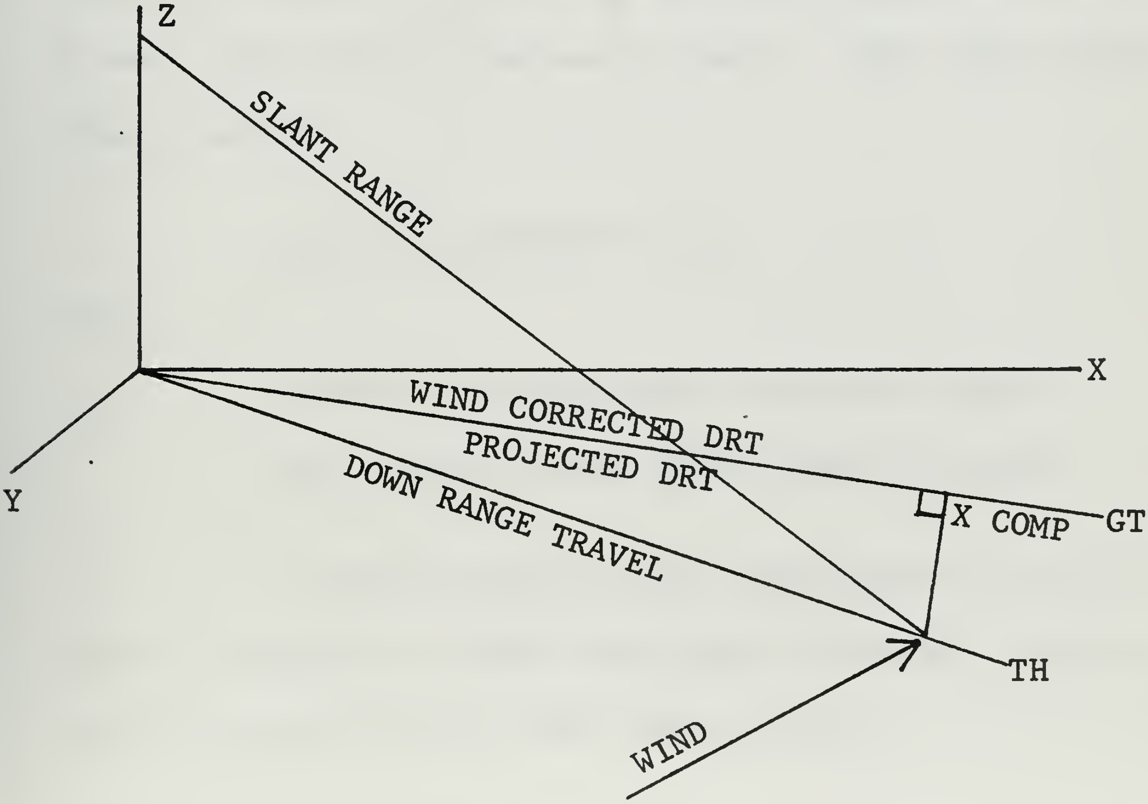

FIGURE 5. WIND CORRECTED SOLUTION TO DOWN RANGE TRAVEL

3. <u>Observed Slant Range</u>

The experimental data taken from the A-6E aircraft during actual drop conditions provides many useful delivery parameters, sensor readings, and intermediate calculations. However, the one piece of information needed to make the desired comparison, down range travel, was missing. But various other parameters were available, and DRT could be reconstructed by several different methods. The problem was to determine which method is the most accurate.

a. Method for DRT Calculation

Slant range to the target and search radar depression angle (look down angle from flight path vector) is made available by the search radar. Down range travel simply becomes

$$DRT = \cos(DEPANG) * SR$$

where:

DEPANG = search radar depression angle

SR = search radar slant range to target

A second method takes advantage of the aircraft's present position altitude and target altitude to compute vertical separation and down range travel.

$$VERT\ SEP = PPA - TGT\ ALT$$

$$DRT = \cos \text{arsin}(VERT\ SEP / SR) * SR$$

where:

VERT SEP = vertical separation

PPA = inertial derived present position altitude

TGT ALT = target altitude

A third and final method of computing down range travel uses the vertical separation generated by the ballistics program on board the A-6E aircraft.

DRT = cos arcsin(VERT SEP / SR) * SR

b. Error Analysis

An error analysis was conducted to determine which method would produce the most accurate value for DRT. This would yield a maximum error bound which can be expected in DRT due to this method of calculation. The third relationship proved to have the smallest error bound and was eventually used to reconstruct the down range travel from the experimental data.

For example, the maximum error bound on the relationship

DRT = cos arsin(VERT SEP / SR) * SR

is the sum of the partial derivatives of DRT multiplied by their tolerances.

$$\left|\Delta DRT\right| = \left|\frac{\partial DRT}{\partial VERT\ SEP}\right| \left|\Delta VERT\ SEP\right| + \left|\frac{\partial DRT}{\partial SR}\right| \left|\Delta SR\right|$$

The third method of computing down range travel will serve as an example for this procedure.

DRT = cos arsin (VERT SEP / SR) * SR

The partial derivative of DRT with respect to VERT SEP becomes:

$$\frac{\partial DRT}{\partial VERT\ SEP} = \frac{SR}{\sqrt{(SR)^2 - (ALT)^2}}$$

The partial derivative of DRT with respect to ALT becomes:

$$\frac{\partial DRT}{\partial ALT} = \frac{-ALT}{\sqrt{(SR)^2 - (ALT)^2}}$$

the error bounds are:

VERT SEP = $\pm$0.5 feet (rounded to the nearest foot)

SR = $\pm$5.0 feet (rounded to the nearest 10 feet)

Therefore, the maximum error bound that can be expected from rounding error of actual delivery data becomes:

$$\Delta DRT = \frac{0.5(SR) + 5.0(ALT)}{\sqrt{(SR)^2 - (ALT)^2}}$$

This analysis was performed using all three methods of constructing down range travel. The third method was found to be the most accurate with a maximum

error bound of 5.2 feet and was the method used to construct the down range travel from the freeze data.

4. <u>Hit Distances</u>

The hit coordinates of the experimental data were not utilized because the computer bases its calculations on the location of the search radar cursors. If the cursors are not properly placed, the weapon, most likely, will not hit the target. However, for the slant range measured by the search radar set, the down range travel and time of fall will be calculated accurately and the weapon will hit the ground in the proximity of the cursor placement.

VI. PRESENTATION OF RESULTS

A. FORTRAN VS. PLM

Appendix A contains the results of comparing identical ballistics algorithms: a FORTRAN program which is a Naval Postgraduate School modification of the Naval Weapons Center BOEING algorithm, and a PLM version of the same algorithm (Ref. 3). The difference between the procedures is that the FORTRAN program uses the standard IBM 21 to 24 bit mantissa for its floating point number, whereas the PLM version uses a 16 bit mantissa.

A summary of the results is presented in Table 2. With the exception of weapon number five (MK-76 MOD-5) the largest average difference in down range travel (DRT) was 1.6 feet and the maximum absolute difference in DRT was 17 feet, which occurs when DRT is 8,332 feet. Weapon number five is suspected to have a coefficient error, although none have been discovered.

Overall these results indicate that the sixteen bit mantissa is sufficiently accurate to perform the ballistics algorithm.

WEAPON ID NUMBER	AVERAGE PER CENT IN DRT (feet)	AVERAGE PER CENT IN TOF (seconds)	MAXIMUM PER CENT IN DRT (feet)	MAXIMUM PER CENT IN TOF (seconds)
4	0.0191	0.1733	0.18	0.68
5	0.1150	0.5622	0.72	2.24
6	0.0070	0.0745	0.03	0.31
7	0.0200	0.0200	0.17	0.60
8	0.0152	0.1318	0.13	0.66
9	0.0160	0.0886	0.03	0.58
10	0.0141	0.0830	0.13	0.56
11	0.0158	0.1066	0.12	0.55
12	0.0128	0.0744	0.16	0.41
13	0.0077	0.0498	0.05	0.28
14	0.1661	0.0938	0.16	0.59
15	0.0102	0.0728	0.06	0.37
16	0.0151	0.0899	0.20	0.62
17	0.0062	0.0269	0.02	0.13
18	0.0103	0.0056	0.03	0.02
20	0.0072	0.0167	0.02	0.04
21	0.0147	0.0105	0.04	0.02
22	0.0107	0.0080	0.03	0.02

TABLE 2. SUMMARY OF FORTRAN VS. PLM RESULTS

B. BALLISTICS TABLES VS. FORTRAN RESULTS

The ballistics tables were compared against the results of the FORTRAN version of the ballistics algorithm. Appendix B contains the results for a variety of initial conditions and weapon types. The results indicate substantial discrepancies between the ballistics tables and the FORTRAN program. The latest version of the Naval Weapons Center's ballistics algorithm (including revised drag coefficients) still does not resolve these differences. Table 3 gives a summary of the data in Appendix B. Weapon number five (MK-76 MOD-5), which was used in the experimental data shows reasonable accuracy for the range of parameter values used in the experiment.

WEAPON ID NUMBER	AVERAGE PER CENT IN DRT (feet)	AVERAGE PER CENT IN TOP (seconds)	MAXIMUM PER CENT IN DRT (feet)	MAXIMUM PER CENT IN TOF (seconds)
4	0.1751	0.1758	0.67	0.49
5	0.2260	0.1135	0.93	0.51
6 *	19.734	20.092	41.14	38.30
7	0.5498	0.8586	2.02	1.78
8 *	0.0986	0.1117	0.42	0.34
9	0.1396	0.1743	0.72	1.02
10	0.4749	0.7935	2.03	2.89
11	0.0777	0.1118	0.50	0.44
12	0.1102	0.3033	0.48	0.86
13	0.0526	0.0892	0.13	0.76
14	0.1050	0.1937	0.32	0.67
15	0.1075	0.0456	0.26	0.18
16	0.3688	0.2456	1.58	1.15
17 *	0.0521	0.0977	0.20	0.62
18	3.3773	1.6483	27.34	9.20
20	1.1159	1.5200	7.46	10.32
21	2.8479	4.9681	8.62	23.81
22	3.5271	1.5409	28.23	8.40

* used invalid drag and mach coefficients

TABLE 3. SUMMARY OF BALLISTICS TABLES VS. FORTRAN RESULTS

C. EXPERIMENTAL DATA VS. FORTRAN ALGORITHM

Experimental data gathered by bombardiers from Naval Air Station Whidbey Island at Boardman bombing range is given in Appendix C. Because the ballistics table and the FORTRAN algorithm agree reasonably well, the FORTRAN algorithm was used in place of the ballistics tables for convenience. The down range travel and time of fall were calculated from:

1. The experimental data.
2. The FORTRAN algorithm with the old drag coefficients.
3. The FORTRAN algorithm with the new drag coefficients.

The calculations are described in section (5.B.2, Wind Effect), and the results are summarized in Table 4.

The substantial discrepancy between the experimental data and the results of the ballistics algorithm cannot be dismissed. Because the ballistics algorithm's down range travel agrees with the official Navy ballistics tables to within 0.2%, the 12% discrepancy in DRT leads to the conclusion that either the instrumentation on many different aircraft indicated erroneous readings, or the behavior of the weapons is substantially different from the behavior described by the ballistics tables. Additional data under more precise initial conditions would have to be gathered before any definite conclusions can be drawn.

	OLD COEFFICIENT	NEW COEFFICIENTS
AVERAGE ABSOLUTE DIFFERENCE IN DOWN RANGE TRAVEL	247.00	247.00
AVERAGE ABSOLUTE DIFFERENCE IN TIME OF FALL	0.1299	0.1573
AVERAGE PER CENT DIFFERENCE IN DOWN RANGE TRAVEL	11.973	12.435
AVERAGE PER CENT DIFFERENCE IN TIME OF FALL	1.659	2.091

TABLE 4. SUMMARY OF BALLISTICS TABLES VS. ACTUAL DELIVERY DATA

VII. CONCLUSION

The radical cost reductions in computer hardware brought about by large scale integration (LSI) have introduced an opportunity to construct micro-computer based airborne tactical systems which reduce the hardware costs by at least an order of magnitude. To establish the feasibility of constructing such a system requires that two questions be answered in the affirmative.

1. Is the computation sufficiently accurate?
2. Is the computation fast enough to satisfy real time requirements?

This study concentrated on the first question. As the results indicate, the 16 bit floating point mantissa is sufficiently accurate for the ballistic calculations.

As a byproduct, the BOEING-Naval Weapons Center algorithm was compared with the published ballistics tables. Although some of the weapons displayed close agreement, others revealed substantial discrepancies which remain unresolved.

The most significant and unexpected finding is related to the experimental data generated by the bombardiers based at Naval Air Station Whidbey Island. If the initial

conditions recorded by the aircraft's instruments are used to predict where the weapon would impact the ground, then the ballistics tables predict that the weapons land consistently more than 10% short of where they actually landed. Either the recorded initial conditions are incorrect or the ballistics tables do not predict reality for this weapon.

Although the micro-computer is substantially slower in executing arithmetically complex tasks when compared to a mini-computer, several micro-computers can be used as dedicated machines for specific tasks. Such a distributed system can operate sufficiently fast to solve the real time problem.

APPENDIX A

This appendix compares the results of the FORTRAN and PLM versions of the ballistics algorithm. The absolute difference in down range travel and time of fall is presented.

WEAPON COEFFICIENTS FOR IDNO 4

CFORM1 = 0.0039235	DKG1 = 0.0027540	DM1 = 0.0	VMUZ =	0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN =	0.	SL = 0.0
ITYPE = -1	IREF = 2	VE = 0.0			
IBCTH = 1	DMAX = 3.00	DTI = 2.00			

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
10.	300.	500.	8.93	4181.	8.94	4178.	0.02	-4.	0.21	-0.09
10.	300.	3000.	17.07	7576.	17.07	7576.	0.00	0.	0.00	0.00
10.	350.	500.	9.58	5151.	9.59	5151.	0.00	0.	0.03	0.00
10.	350.	3000.	17.64	8970.	17.64	8970.	0.00	-0.	0.02	-0.00
10.	400.	500.	10.23	6193.	10.24	6191.	0.01	-1.	0.11	-0.02
10.	400.	3000.	18.21	10385.	18.22	10384.	0.01	-1.	0.07	-0.01
10.	450.	500.	10.87	7282.	10.90	7276.	0.03	-6.	0.23	-0.08
10.	450.	3000.	18.77	11792.	18.79	11790.	0.03	-2.	0.15	-0.02
10.	500.	500.	11.54	8376.	11.54	8376.	0.00	0.	0.03	0.00
10.	500.	3000.	19.35	13147.	19.36	13146.	0.00	-1.	0.00	-0.00
10.	550.	500.	12.15	9438.	12.16	9437.	0.01	-1.	0.10	-0.01
10.	550.	3000.	19.88	14400.	19.89	14400.	0.01	-0.	0.04	-0.00
0.	300.	500.	5.64	2736.	5.64	2735.	0.00	-0.	0.05	-0.01
0.	300.	15000.	33.06	13728.	33.06	13728.	-0.00	-0.	-0.01	-0.00
0.	350.	500.	5.64	3177.	5.65	3176.	0.00	-0.	0.06	-0.01
0.	350.	15000.	33.25	15804.	33.24	15802.	-0.00	-2.	-0.00	-0.01
0.	400.	500.	5.65	3613.	5.66	3612.	0.00	-0.	0.07	-0.01
0.	400.	15000.	33.46	17788.	33.46	17787.	0.00	-1.	0.00	-0.01
0.	450.	500.	5.66	4039.	5.67	4038.	0.00	-0.	0.07	-0.01
0.	450.	15000.	33.69	19653.	33.69	19652.	0.01	-1.	0.02	-0.00
0.	500.	500.	5.68	4449.	5.68	4448.	0.01	-0.	0.09	-0.01
0.	500.	15000.	33.94	21322.	33.95	21320.	0.01	-1.	0.03	-0.00
0.	550.	500.	5.69	4832.	5.70	4831.	0.01	-1.	0.10	-0.01
0.	550.	15000.	34.20	22765.	34.21	22763.	0.02	-1.	0.06	-0.00
-10.	300.	500.	3.52	1710.	3.52	1710.	0.00	0.	0.06	0.01
-10.	300.	3500.	12.77	5815.	12.80	5813.	0.02	-1.	0.19	-0.02
-10.	350.	500.	3.28	1855.	3.28	1856.	0.00	0.	0.03	0.01
-10.	350.	4500.	14.58	7554.	14.60	7553.	0.02	-1.	0.16	-0.01
-10.	400.	500.	3.07	1977.	3.07	1977.	0.00	0.	0.01	0.01
-10.	400.	5500.	16.22	9359.	16.24	9359.	0.02	-0.	0.09	-0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	PLM VERSION NPS MODIFIED BOEING ALGORITHM DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
-10.	450.	1000.	4.91	3503.	4.95	3497.	0.03	-6.	0.68	-0.18
-10.	450.	7000.	18.60	11657.	18.63	11655.	0.03	-1.	0.15	-0.01
-10.	500.	1000.	4.70	3692.	4.73	3687.	0.03	-5.	0.67	-0.14
-10.	500.	8000.	20.06	13476.	20.08	13475.	0.01	-0.	0.07	-0.00
-10.	550.	1000.	4.51	3852.	4.54	3848.	0.03	-5.	0.67	-0.12
-10.	550.	9000.	21.52	15223.	21.52	15223.	0.00	0.	0.02	0.00
-20.	300.	1000.	4.24	1959.	4.25	1959.	0.01	-1.	0.26	-0.03
-20.	300.	5500.	14.65	6276.	14.68	6275.	0.02	-1.	0.16	-0.02
-20.	350.	1000.	3.88	2087.	3.89	2087.	0.01	-0.	0.17	-0.01
-20.	350.	7000.	16.61	8089.	16.64	8088.	0.03	-1.	0.16	-0.01
-20.	400.	1000.	3.57	2188.	3.58	2188.	0.00	0.	0.10	0.01
-20.	400.	8500.	18.41	9953.	18.43	9953.	0.02	-0.	0.13	-0.00
-20.	450.	1500.	4.66	3175.	4.69	3173.	0.03	-3.	0.61	-0.09
-20.	450.	10500.	20.79	12198.	20.83	12196.	0.04	-2.	0.19	-0.02
-20.	500.	1500.	4.38	3288.	4.40	3287.	0.02	-2.	0.54	-0.05
-20.	500.	12000.	22.46	14053.	22.49	14051.	0.03	-1.	0.13	-0.01
-20.	550.	1500.	4.14	3379.	4.16	3378.	0.02	-1.	0.47	-0.03
-20.	550.	13500.	24.15	15833.	24.17	15832.	0.02	-1.	0.08	-0.01
-30.	300.	1500.	4.69	1992.	4.71	1991.	0.02	-1.	0.44	-0.06
-30.	300.	8000.	16.88	6563.	16.92	6562.	0.04	-1.	0.21	-0.02
-30.	350.	1500.	4.25	2100.	4.26	2100.	0.01	-0.	0.33	-0.02
-30.	350.	10500.	19.63	8607.	19.64	8607.	0.00	0.	0.02	0.00
-30.	400.	2000.	4.97	2786.	5.00	2784.	0.04	-3.	0.72	-0.09
-30.	400.	13000.	22.10	10700.	22.12	10700.	0.02	0.	0.08	0.00
-30.	450.	2000.	4.59	2885.	4.62	2883.	0.03	-1.	0.61	-0.05
-30.	450.	15000.	23.91	12543.	23.92	12543.	0.01	0.	0.05	0.00
-30.	500.	2500.	5.26	3584.	5.27	3585.	0.00	0.	0.03	0.01
-30.	500.	15000.	23.41	13279.	23.41	13279.	0.00	-0.	0.01	-0.00
-30.	550.	2500.	4.90	3675.	4.96	3671.	0.05	-4.	1.12	-0.12
-30.	550.	15000.	22.93	13899.	22.99	13896.	0.06	-2.	0.25	-0.01
-40.	300.	2500.	6.14	2275.	6.15	2275.	0.01	-0.	0.18	-0.00
-40.	300.	12500.	21.37	7118.	21.37	7118.	0.00	-0.	0.01	-0.00
-40.	350.	2500.	5.57	2400.	5.57	2401.	0.00	0.	0.06	0.01
-40.	350.	15000.	23.36	8814.	23.36	8814.	0.00	0.	0.01	0.00
-40.	400.	3000.	5.97	2913.	5.98	2914.	0.01	0.	0.18	0.01
-40.	400.	15000.	22.45	9556.	22.48	9557.	0.03	0.	0.14	0.00
-40.	450.	3000.	5.51	3012.	5.51	3012.	0.00	0.	0.07	0.01
-40.	450.	15000.	21.71	10192.	21.72	10192.	0.01	0.	0.03	0.00
-40.	500.	3500.	5.90	3530.	5.91	3530.	0.01	0.	0.20	0.01
-40.	500.	15000.	21.08	10723.	21.08	10724.	0.00	1.	0.00	0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	6.28	4049.	6.30	4048.	0.03	-1.	0.41	-0.02
-40.	550.	15000.	20.51	11165.	20.55	11165.	0.04	-0.	0.18	-0.00
-45.	300.	2500.	5.77	1977.	5.77	1977.	0.01	0.	0.10	0.02
-45.	300.	15000.	23.62	7154.	23.62	7154.	0.00	0.	0.02	0.01
-45.	350.	3000.	6.10	2418.	6.11	2419.	0.01	0.	0.19	0.01
-45.	350.	15000.	22.53	7887.	22.56	7887.	0.03	0.	0.15	0.00
-45.	400.	3000.	5.57	2516.	5.57	2516.	0.00	0.	0.07	0.02
-45.	400.	15000.	21.61	8522.	21.62	8522.	0.01	1.	0.02	0.01
-45.	450.	3500.	5.89	2962.	5.90	2962.	0.01	0.	0.17	0.01
-45.	450.	15000.	20.76	9061.	20.81	9061.	0.05	-0.	0.23	-0.00
-45.	500.	4000.	6.19	3409.	6.21	3409.	0.02	-0.	0.32	-0.00
-45.	500.	15000.	20.11	9507.	20.13	9508.	0.02	1.	0.10	0.01
-45.	550.	4500.	6.49	3856.	6.52	3855.	0.04	-0.	0.56	-0.01
-45.	550.	15000.	19.55	9876.	19.56	9877.	0.01	1.	0.03	0.01
-60.	300.	4000.	7.54	1801.	7.54	1801.	0.00	0.	0.04	0.01
-60.	300.	15000.	21.92	4733.	21.93	4733.	0.01	0.	0.05	0.01
-60.	350.	4000.	6.78	1895.	6.81	1895.	0.03	-1.	0.44	-0.03
-60.	350.	15000.	20.68	5172.	20.72	5172.	0.04	-0.	0.20	-0.01
-60.	400.	5000.	7.58	2377.	7.59	2377.	0.00	0.	0.05	0.00
-60.	400.	15000.	19.66	5542.	19.66	5542.	0.01	0.	0.03	0.00
-60.	450.	5500.	7.63	2662.	7.64	2662.	0.01	0.	0.07	0.01
-60.	450.	15000.	18.71	5850.	18.76	5849.	0.05	-0.	0.25	-0.01
-60.	500.	6500.	8.31	3152.	8.34	3152.	0.03	-0.	0.31	-0.01
-60.	500.	15000.	17.98	6101.	17.99	6101.	0.02	0.	0.09	0.00
-60.	550.	7000.	8.41	3432.	8.45	3432.	0.03	-0.	0.41	-0.01
-60.	550.	15000.	17.36	6305.	17.36	6305.	0.00	0.	0.01	0.01

WEAPON COEFFICIENTS FOR IDNO 5

CFORM1 = 0.0039077 DKG1 = 0.0063648 DM1 = 0.0 VMUZ = 0. DS = 0.0
CFORM2 = 0.0 DKG2 = 0.0 DM2 = 0.0 FN = 0. SL = 0.0

ITYPE = -1 IREF = 2 VE = 0.0
IBOTH = 1 DMAX = 3.00 DTI = 1.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
10.	300.	500.	8.89	4117.	8.95	4111.	0.06	-6.	0.71	-0.14
10.	300.	3000.	17.12	7397.	17.18	7402.	0.06	6.	0.36	0.08
10.	350.	500.	9.56	5033.	9.59	5048.	0.03	14.	0.29	0.28
10.	350.	3000.	17.67	8720.	17.76	8726.	0.09	5.	0.50	0.06
10.	400.	500.	10.19	6024.	10.23	6040.	0.04	16.	0.39	0.27
10.	400.	3000.	18.30	10040.	18.33	10056.	0.03	16.	0.16	0.16
10.	450.	500.	10.82	7051.	10.88	7067.	0.06	16.	0.55	0.23
10.	450.	3000.	18.87	11350.	18.90	11370.	0.04	20.	0.20	0.18
10.	500.	500.	11.42	8090.	11.51	8103.	0.09	14.	0.76	0.17
10.	500.	3000.	19.40	12616.	19.46	12637.	0.05	21.	0.28	0.16
10.	550.	500.	11.99	9096.	12.11	9102.	0.12	6.	0.99	0.06
10.	550.	3000.	19.91	13786.	19.98	13810.	0.07	24.	0.37	0.17
0.	300.	500.	5.61	2724.	5.66	2714.	0.04	-11.	0.79	-0.39
0.	300.	15000.	33.66	13303.	33.70	13308.	0.04	5.	0.11	0.04
0.	350.	500.	5.62	3161.	5.67	3147.	0.05	-14.	0.89	-0.45
0.	350.	15000.	33.86	15267.	33.90	15273.	0.04	6.	0.12	0.04
0.	400.	500.	5.63	3592.	5.68	3574.	0.06	-18.	1.01	-0.50
0.	400.	15000.	34.08	17146.	34.12	17153.	0.04	8.	0.13	0.05
0.	450.	500.	5.63	4014.	5.70	3991.	0.06	-23.	1.12	-0.56
0.	450.	15000.	34.30	18899.	34.36	18909.	0.05	10.	0.16	0.05
0.	500.	500.	5.64	4420.	5.71	4392.	0.07	-28.	1.26	-0.64
0.	500.	15000.	34.53	20490.	34.60	20501.	0.06	11.	0.19	0.05
0.	550.	500.	5.65	4801.	5.73	4766.	0.08	-35.	1.42	-0.72
0.	550.	15000.	34.77	21876.	34.85	21887.	0.08	12.	0.22	0.05
-10.	300.	500.	3.54	1704.	3.54	1704.	0.00	0.	0.08	0.00
-10.	300.	3500.	12.92	5729.	12.95	5735.	0.03	6.	0.20	0.11
-10.	350.	500.	3.30	1848.	3.30	1848.	0.00	0.	0.04	0.01
-10.	350.	4500.	14.72	7423.	14.82	7424.	0.09	2.	0.64	0.03
-10.	400.	500.	3.08	1969.	3.08	1969.	0.00	0.	0.01	0.01
-10.	400.	5500.	16.47	9160.	16.52	9169.	0.05	9.	0.28	0.10

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	4.95	3482.	4.99	3476.	0.05	-6.	0.92	-0.17
-10.	450.	6500.	17.99	10931.	18.12	10934.	0.13	3.	0.73	0.03
-10.	500.	1000.	4.74	3670.	4.78	3665.	0.04	-5.	0.88	-0.14
-10.	500.	7500.	19.60	12675.	19.66	12689.	0.06	14.	0.29	0.11
-10.	550.	1000.	4.55	3829.	4.59	3824.	0.04	-5.	0.85	-0.12
-10.	550.	8500.	21.15	14361.	21.17	14380.	0.02	19.	0.11	0.13
-20.	300.	1000.	4.26	1953.	4.28	1953.	0.02	-1.	0.35	-0.03
-20.	300.	5000.	13.92	5844.	13.97	5847.	0.06	3.	0.40	0.05
-20.	350.	1000.	3.91	2080.	3.92	2080.	0.01	-0.	0.23	-0.01
-20.	350.	6500.	16.08	7603.	16.11	7610.	0.03	7.	0.21	0.09
-20.	400.	1000.	3.60	2181.	3.60	2181.	0.00	0.	0.13	0.00
-20.	400.	8000.	17.93	9418.	18.06	9419.	0.13	1.	0.72	0.01
-20.	450.	1500.	4.70	3163.	4.74	3160.	0.04	-3.	0.82	-0.08
-20.	450.	9500.	19.81	11241.	19.87	11249.	0.07	8.	0.34	0.08
-20.	500.	1500.	4.42	3276.	4.45	3274.	0.03	-2.	0.70	-0.06
-20.	500.	11000.	21.63	13039.	21.65	13053.	0.03	13.	0.12	0.10
-20.	550.	1500.	4.18	3366.	4.20	3365.	0.02	-1.	0.60	-0.04
-20.	550.	12500.	23.32	14781.	23.43	14791.	0.10	10.	0.44	0.07
-30.	300.	1500.	4.72	1987.	4.74	1986.	0.03	-1.	0.59	-0.06
-30.	300.	7500.	16.43	6210.	16.47	6213.	0.04	4.	0.26	0.06
-30.	350.	1500.	4.28	2095.	4.30	2095.	0.02	-0.	0.43	-0.02
-30.	350.	10000.	19.35	8199.	19.39	8204.	0.05	6.	0.24	0.07
-30.	400.	2000.	5.01	2777.	5.06	2775.	0.05	-3.	0.98	-0.09
-30.	400.	12000.	21.36	9975.	21.39	9983.	0.02	8.	0.11	0.08
-30.	450.	2000.	4.64	2876.	4.67	2875.	0.04	-2.	0.81	-0.06
-30.	450.	14500.	23.79	12021.	23.94	12025.	0.15	4.	0.61	0.04
-30.	500.	2500.	5.26	3578.	5.34	3572.	0.08	-5.	1.51	-0.14
-30.	500.	15000.	23.87	12999.	24.03	13004.	0.15	5.	0.65	0.04
-30.	550.	2500.	4.96	3663.	5.03	3659.	0.07	-4.	1.39	-0.12
-30.	550.	15000.	23.47	13612.	23.59	13620.	0.12	9.	0.51	0.06
-40.	300.	2500.	6.20	2265.	6.21	2267.	0.01	2.	0.12	0.10
-40.	300.	12000.	21.21	6817.	21.24	6821.	0.03	4.	0.12	0.06
-40.	350.	2500.	5.56	2397.	5.63	2393.	0.07	-3.	1.29	-0.15
-40.	350.	15000.	23.82	8643.	23.97	8644.	0.15	1.	0.62	0.01
-40.	400.	3000.	5.95	2910.	6.05	2904.	0.11	-6.	1.80	-0.21
-40.	400.	15000.	23.00	9373.	23.08	9378.	0.09	5.	0.37	0.05
-40.	450.	3000.	5.50	3007.	5.59	3003.	0.09	-4.	1.60	-0.15
-40.	450.	15000.	22.27	10003.	22.31	10010.	0.05	8.	0.20	0.08
-40.	500.	3500.	5.87	3526.	6.00	3518.	0.13	-8.	2.24	-0.22
-40.	500.	15000.	21.64	10533.	21.66	10543.	0.02	10.	0.11	0.10

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	6.40	4028.	6.41	4033.	0.00	5.	0.07	0.13
-40.	550.	15000.	20.95	10982.	21.11	10987.	0.17	5.	0.79	0.05
-45.	300.	2500.	5.76	1975.	5.83	1972.	0.07	-3.	1.28	-0.15
-45.	300.	15000.	24.19	7018.	24.21	7022.	0.03	4.	0.11	0.06
-45.	350.	3000.	6.17	2408.	6.18	2411.	0.01	2.	0.11	0.10
-45.	350.	15000.	23.07	7741.	23.15	7746.	0.09	5.	0.38	0.06
-45.	400.	3000.	5.56	2512.	5.64	2509.	0.08	-3.	1.50	-0.13
-45.	400.	15000.	22.16	8369.	22.21	8375.	0.04	6.	0.19	0.07
-45.	450.	3500.	5.86	2958.	5.98	2952.	0.12	-5.	1.99	-0.19
-45.	450.	15000.	21.36	8904.	21.38	8912.	0.02	8.	0.10	0.09
-45.	500.	4000.	6.30	3394.	6.31	3398.	0.01	4.	0.08	0.11
-45.	500.	15000.	20.55	9356.	20.68	9362.	0.13	6.	0.63	0.06
-45.	550.	4500.	6.63	3837.	6.64	3842.	0.01	5.	0.14	0.12
-45.	550.	15000.	20.01	9726.	20.10	9735.	0.08	8.	0.42	0.09
-60.	300.	4000.	7.60	1794.	7.64	1794.	0.03	1.	0.46	0.03
-60.	300.	15000.	22.44	4654.	22.49	4657.	0.05	3.	0.24	0.06
-60.	350.	4000.	6.88	1887.	6.90	1888.	0.02	1.	0.23	0.06
-60.	350.	15000.	21.25	5089.	21.28	5093.	0.02	4.	0.11	0.07
-60.	400.	5000.	7.67	2367.	7.71	2368.	0.04	1.	0.58	0.04
-60.	400.	15000.	20.11	5461.	20.20	5463.	0.09	2.	0.47	0.04
-60.	450.	5500.	7.73	2651.	7.78	2652.	0.05	1.	0.67	0.03
-60.	450.	15000.	19.24	5768.	19.28	5772.	0.04	4.	0.22	0.08
-60.	500.	6500.	8.40	3138.	8.51	3138.	0.10	-0.	1.24	-0.01
-60.	500.	15000.	18.48	6021.	18.50	6027.	0.02	6.	0.08	0.10
-60.	550.	7000.	8.50	3418.	8.63	3417.	0.12	-1.	1.44	-0.02
-60.	550.	15000.	17.69	6232.	17.84	6235.	0.15	3.	0.82	0.04

WEAPON COEFFICIENTS FOR IDNO 6

CFORM1 = 0.0	DKG1 = 0.0212660	DM1 = 0.0	VMUZ = 0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN = 0.	SL = 0.0
ITYPE = -1	IREF = 4	VE = 0.0		
IBOTH = 1	DMAX = 2.00	DTI = 1.00		

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	300.	500.	5.69	2692.	5.69	2691.	0.01	-0.	0.09	-0.01
0.	300.	1500.	10.03	4521.	10.03	4521.	-0.00	0.	-0.00	0.00
0.	350.	500.	5.71	3116.	5.71	3116.	0.01	-1.	0.10	-0.02
0.	350.	2000.	11.71	5945.	11.72	5944.	0.01	-0.	0.05	-0.00
0.	400.	500.	5.72	3535.	5.73	3534.	0.01	-1.	0.12	-0.02
0.	400.	2000.	11.77	6704.	11.78	6704.	0.01	-0.	0.07	-0.00
0.	450.	500.	5.74	3947.	5.75	3946.	0.01	-1.	0.14	-0.02
0.	450.	2500.	13.32	8218.	13.32	8218.	0.00	-0.	0.01	-0.00
0.	500.	500.	5.76	4352.	5.77	4351.	0.01	-1.	0.16	-0.02
0.	500.	2500.	13.39	9003.	13.40	9004.	0.00	0.	0.01	0.00
0.	550.	500.	5.77	4752.	5.78	4751.	0.01	-1.	0.18	-0.03
0.	550.	2500.	13.46	9768.	13.47	9768.	0.00	-0.	0.02	-0.00
-10.	300.	500.	3.56	1701.	3.57	1701.	0.00	-0.	0.11	-0.00
-10.	300.	2500.	10.63	4682.	10.64	4682.	0.00	-0.	0.05	-0.00
-10.	350.	500.	3.33	1847.	3.33	1847.	0.00	0.	0.05	0.01
-10.	350.	3000.	11.65	5818.	11.66	5818.	0.01	-0.	0.05	-0.00
-10.	400.	500.	3.12	1969.	3.12	1969.	0.00	0.	0.02	0.01
-10.	400.	3000.	11.39	6407.	11.39	6407.	0.00	-0.	0.02	-0.00
-10.	450.	1000.	5.06	3458.	5.06	3458.	0.00	0.	0.01	0.01
-10.	450.	3500.	12.35	7594.	12.35	7594.	0.00	-0.	0.01	-0.00
-10.	500.	1000.	4.82	3654.	4.84	3654.	0.01	-1.	0.26	-0.02
-10.	500.	4000.	13.27	8801.	13.27	8801.	0.00	0.	0.01	0.00
-10.	550.	1000.	4.62	3828.	4.63	3828.	0.01	-0.	0.17	-0.00
-10.	550.	4500.	14.14	10022.	14.14	10022.	-0.00	0.	-0.00	0.00
-20.	300.	1000.	4.32	1948.	4.32	1948.	0.00	0.	0.04	0.00
-20.	300.	3500.	11.11	4632.	11.11	4633.	0.00	0.	0.00	0.01
-20.	350.	1000.	3.95	2077.	3.96	2076.	0.01	-0.	0.31	-0.02
-20.	350.	4000.	11.68	5555.	11.69	5555.	0.01	-0.	0.06	-0.00
-20.	400.	1000.	3.64	2179.	3.65	2179.	0.01	-0.	0.18	-0.00
-20.	400.	4500.	12.23	6493.	12.23	6493.	0.00	-0.	0.01	-0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-20.	450.	1500.	4.80	3150.	4.81	3150.	0.01	-0.	0.23	-0.01
-20.	450.	5000.	12.75	7444.	12.76	7443.	0.01	-1.	0.07	-0.01
-20.	500.	1500.	4.50	3269.	4.51	3269.	0.01	0.	0.12	0.01
-20.	500.	5500.	13.27	8402.	13.27	8403.	0.00	0.	0.01	0.00
-20.	550.	1500.	4.23	3369.	4.23	3369.	0.00	0.	0.04	0.01
-20.	550.	6000.	13.75	9369.	13.76	9369.	0.01	-1.	0.07	-0.01
-30.	300.	1500.	4.79	1981.	4.80	1981.	0.01	-0.	0.17	-0.00
-30.	300.	4500.	11.55	4413.	11.56	4413.	0.00	0.	0.04	0.01
-30.	350.	1500.	4.35	2090.	4.35	2090.	0.00	0.	0.05	0.01
-30.	350.	5500.	12.72	5505.	12.73	5505.	0.01	0.	0.07	0.00
-30.	400.	2000.	5.14	2765.	5.14	2765.	0.00	0.	0.01	0.01
-30.	400.	6500.	13.80	6622.	13.81	6622.	0.01	0.	0.08	0.00
-30.	450.	2000.	4.74	2868.	4.75	2868.	0.01	0.	0.21	0.00
-30.	450.	7000.	13.99	7412.	14.00	7412.	0.02	-0.	0.12	-0.00
-30.	500.	2500.	5.41	3564.	5.42	3564.	0.00	0.	0.07	0.00
-30.	500.	8000.	14.96	8562.	14.98	8562.	0.02	-0.	0.11	-0.00
-30.	550.	2500.	5.07	3659.	5.07	3659.	0.00	0.	0.01	0.01
-30.	550.	8500.	15.16	9358.	15.16	9358.	-0.00	0.	-0.00	0.00
-40.	300.	2500.	6.29	2258.	6.30	2258.	0.00	0.	0.02	0.01
-40.	300.	6500.	13.73	4526.	13.74	4526.	0.01	0.	0.06	0.00
-40.	350.	2500.	5.71	2385.	5.72	2385.	0.01	0.	0.14	0.00
-40.	350.	8000.	15.25	5662.	15.25	5663.	0.00	0.	0.00	0.00
-40.	400.	3000.	6.16	2891.	6.16	2891.	0.00	0.	0.01	0.01
-40.	400.	9000.	15.89	6583.	15.90	6584.	0.01	0.	0.08	0.00
-40.	450.	3000.	5.68	2993.	5.69	2993.	0.01	0.	0.15	0.00
-40.	450.	10000.	16.52	7514.	16.52	7514.	0.00	0.	0.02	0.00
-40.	500.	3500.	6.10	3509.	6.10	3509.	0.00	0.	0.01	0.01
-40.	500.	11000.	17.12	8452.	17.12	8452.	-0.00	0.	-0.01	0.00
-40.	550.	4000.	6.46	4030.	6.47	4030.	0.00	0.	0.07	0.01
-40.	550.	12000.	17.69	9397.	17.70	9396.	0.01	-0.	0.04	-0.00
-45.	300.	2500.	5.90	1965.	5.91	1965.	0.01	0.	0.19	0.01
-45.	300.	8500.	16.24	4808.	16.24	4808.	0.00	1.	0.00	0.01
-45.	350.	3000.	6.28	2400.	6.28	2401.	0.00	0.	0.03	0.02
-45.	350.	9500.	16.72	5643.	16.73	5643.	0.01	1.	0.05	0.01
-45.	400.	3000.	5.73	2500.	5.74	2500.	0.01	0.	0.17	0.01
-45.	400.	11000.	17.86	6688.	17.87	6688.	0.01	0.	0.07	0.00
-45.	450.	3500.	6.09	2942.	6.09	2942.	0.00	1.	0.01	0.02
-45.	450.	12500.	18.93	7751.	18.94	7751.	0.01	0.	0.08	0.00
-45.	500.	4000.	6.41	3388.	6.41	3388.	0.00	0.	0.05	0.01
-45.	500.	13500.	19.34	8613.	19.34	8614.	0.00	1.	0.01	0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	550.	4500.	6.69	3838.	6.70	3838.	0.01	1.	0.16	0.02
-45.	550.	15000.	20.32	9701.	20.32	9702.	0.00	1.	0.00	0.01
-60.	300.	4000.	7.76	1785.	7.77	1785.	0.01	0.	0.11	0.01
-60.	300.	15000.	23.25	4553.	23.24	4553.	-0.00	0.	-0.01	0.01
-60.	350.	4000.	7.03	1880.	7.03	1880.	0.00	0.	0.00	0.01
-60.	350.	15000.	21.99	4987.	22.00	4986.	0.02	-0.	0.07	-0.00
-60.	400.	5000.	7.87	2355.	7.89	2355.	0.01	-0.	0.17	-0.00
-60.	400.	15000.	20.85	5363.	20.86	5363.	0.01	-0.	0.06	-0.00
-60.	450.	5500.	7.94	2639.	7.95	2639.	0.02	-0.	0.20	-0.01
-60.	450.	15000.	19.80	5691.	19.81	5691.	0.01	-0.	0.05	-0.00
-60.	500.	6500.	8.66	3125.	8.66	3125.	0.01	0.	0.10	0.01
-60.	500.	15000.	18.83	5978.	18.84	5978.	0.01	0.	0.07	0.00
-60.	550.	7000.	8.69	3413.	8.70	3413.	0.01	0.	0.12	0.01
-60.	550.	15000.	17.92	6230.	17.94	6230.	0.02	0.	0.10	0.01

WEAPON COEFFICIENTS FOR IDNO 7

CFORM1 = 2.5703993 DKG1 = 0.0 DM1 = 0.0 VMUZ = 0. DS = 0.0
CFORM2 = 0.0 DKG2 = 0.0 DM2 = 0.0 FN = 0. SL = 0.0

ITYPE = -1 IREF = 1 VE = 0.0
IBOTH = 1 DMAX = 5.00 DTI = 3.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.93	4360.	8.93	4360.	0.00	0.	0.02	0.00
10.	300.	3000.	16.77	8063.	16.78	8061.	0.02	-2.	0.10	-0.02
10.	350.	500.	9.58	5435.	9.59	5434.	0.01	-1.	0.06	-0.01
10.	350.	3000.	17.35	9652.	17.35	9652.	0.00	0.	0.00	0.00
10.	400.	500.	10.26	6616.	10.27	6612.	0.01	-3.	0.10	-0.05
10.	400.	3000.	17.92	11312.	17.92	11312.	0.00	0.	0.02	0.00
10.	450.	500.	10.94	7903.	10.96	7894.	0.02	-9.	0.16	-0.11
10.	450.	3000.	18.49	13041.	18.50	13040.	0.01	-0.	0.04	-0.00
10.	500.	500.	11.67	9277.	11.67	9278.	0.00	1.	0.02	0.01
10.	500.	3000.	19.08	14836.	19.09	14835.	0.01	-1.	0.08	-0.01
10.	550.	500.	12.39	10762.	12.39	10761.	0.01	-1.	0.05	-0.01
10.	550.	3000.	19.67	16695.	19.69	16690.	0.02	-4.	0.12	-0.02
0.	300.	1000.	7.91	3939.	7.92	3935.	0.01	-4.	0.17	-0.10
0.	300.	15000.	31.30	14884.	31.32	14883.	0.02	-1.	0.07	-0.01
0.	350.	1000.	7.91	4585.	7.92	4580.	0.02	-5.	0.19	-0.11
0.	350.	15000.	31.37	17285.	31.39	17282.	0.03	-2.	0.09	-0.01
0.	400.	1000.	7.91	5229.	7.93	5222.	0.02	-7.	0.22	-0.13
0.	400.	15000.	31.45	19656.	31.48	19654.	0.03	-2.	0.11	-0.01
0.	450.	1000.	7.92	5869.	7.94	5861.	0.02	-8.	0.24	-0.14
0.	450.	15000.	31.56	21998.	31.60	21995.	0.04	-3.	0.14	-0.01
0.	500.	1000.	7.92	6507.	7.94	6497.	0.02	-10.	0.27	-0.16
0.	500.	15000.	31.73	24291.	31.78	24285.	0.06	-5.	0.18	-0.02
0.	550.	1000.	7.92	7142.	7.95	7129.	0.02	-12.	0.30	-0.17
0.	550.	15000.	31.98	26403.	32.05	26395.	0.07	-7.	0.22	-0.03
-10.	300.	1000.	5.64	2775.	5.64	2776.	0.00	0.	0.02	0.01
-10.	300.	3500.	12.42	6018.	12.43	6018.	0.01	0.	0.05	0.00
-10.	350.	1000.	5.35	3066.	5.35	3066.	0.00	0.	0.02	0.01
-10.	350.	5000.	14.99	8381.	15.00	8382.	0.00	1.	0.03	0.01
-10.	400.	1000.	5.08	3321.	5.08	3321.	0.00	0.	0.01	0.01
-10.	400.	6000.	16.35	10371.	16.37	10370.	0.02	-1.	0.12	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	4.82	3546.	4.82	3546.	0.00	0.	0.01	0.01
-10.	450.	7500.	18.36	12960.	18.37	12960.	0.01	-0.	0.04	-0.00
-10.	500.	1000.	4.59	3744.	4.59	3744.	0.00	0.	0.02	0.01
-10.	500.	9000.	20.18	15652.	20.18	15652.	0.00	1.	0.00	0.00
-10.	550.	1000.	4.37	3918.	4.37	3918.	0.00	0.	0.05	0.01
-10.	550.	11000.	22.58	18854.	22.62	18850.	0.05	-4.	0.20	-0.02
-20.	300.	1500.	5.71	2682.	5.71	2682.	0.00	0.	0.03	0.01
-20.	300.	5500.	14.12	6496.	14.12	6496.	0.00	0.	0.00	0.01
-20.	350.	1500.	5.28	2890.	5.28	2890.	0.00	0.	0.01	0.00
-20.	350.	7500.	16.57	8814.	16.59	8812.	0.02	-1.	0.13	-0.02
-20.	400.	1500.	4.90	3060.	4.90	3060.	0.00	0.	0.00	0.00
-20.	400.	9500.	18.68	11238.	18.69	11238.	0.01	0.	0.06	0.00
-20.	450.	1500.	4.56	3200.	4.56	3200.	0.00	0.	0.02	0.01
-20.	450.	11500.	20.56	13767.	20.56	13767.	0.00	-0.	0.01	-0.00
-20.	500.	1500.	4.25	3316.	4.25	3316.	0.00	0.	0.07	0.01
-20.	500.	14000.	22.89	16735.	22.95	16730.	0.06	-5.	0.28	-0.03
-20.	550.	2000.	5.09	4348.	5.09	4349.	0.00	1.	0.01	0.01
-20.	550.	15000.	23.74	18491.	23.75	18491.	0.01	0.	0.03	0.00
-30.	300.	1500.	4.62	2003.	4.62	2003.	0.00	0.	0.02	0.01
-30.	300.	8500.	16.78	7080.	16.81	7079.	0.02	-1.	0.15	-0.01
-30.	350.	2000.	5.31	2679.	5.31	2679.	0.00	0.	0.02	0.02
-30.	350.	11500.	19.63	9556.	19.65	9555.	0.03	-1.	0.13	-0.01
-30.	400.	2000.	4.87	2803.	4.87	2803.	0.00	0.	0.01	0.01
-30.	400.	14500.	22.08	12145.	22.11	12144.	0.03	-1.	0.13	-0.01
-30.	450.	2000.	4.48	2902.	4.48	2902.	0.00	0.	0.03	0.01
-30.	450.	15000.	21.86	13399.	21.88	13398.	0.03	-0.	0.13	-0.00
-30.	500.	2500.	5.05	3620.	5.05	3620.	0.00	0.	0.01	0.01
-30.	500.	15000.	21.24	14269.	21.25	14269.	0.01	-0.	0.07	-0.00
-30.	550.	2500.	4.71	3711.	4.71	3711.	0.00	0.	0.01	0.00
-30.	550.	15000.	20.76	14979.	20.77	14980.	0.01	1.	0.03	0.01
-40.	300.	2500.	5.99	2293.	6.00	2293.	0.00	0.	0.06	0.01
-40.	300.	13500.	21.17	7817.	21.18	7817.	0.01	0.	0.03	0.00
-40.	350.	2500.	5.42	2417.	5.42	2417.	0.00	0.	0.02	0.02
-40.	350.	15000.	21.64	9269.	21.66	9269.	0.02	0.	0.08	0.00
-40.	400.	3000.	5.78	2937.	5.78	2937.	0.00	0.	0.04	0.01
-40.	400.	15000.	20.67	10066.	20.67	10067.	0.00	1.	0.02	0.01
-40.	450.	3000.	5.31	3035.	5.31	3035.	0.00	1.	0.02	0.02
-40.	450.	15000.	19.74	10770.	19.80	10768.	0.06	-2.	0.29	-0.02
-40.	500.	3500.	5.63	3565.	5.63	3566.	0.00	1.	0.05	0.02
-40.	500.	15000.	19.02	11372.	19.06	11371.	0.04	-1.	0.20	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	5.91	4101.	5.92	4102.	0.01	1.	0.09	0.02
-40.	550.	15000.	18.47	11855.	18.49	11855.	0.02	0.	0.13	0.00
-45.	300.	2500.	5.63	1991.	5.63	1991.	0.00	0.	0.03	0.02
-45.	300.	15000.	22.02	7496.	22.04	7497.	0.02	0.	0.09	0.00
-45.	350.	3000.	5.93	2437.	5.93	2437.	0.00	0.	0.05	0.02
-45.	350.	15000.	20.89	8267.	20.90	8268.	0.01	1.	0.03	0.01
-45.	400.	3000.	5.39	2533.	5.39	2533.	0.00	1.	0.02	0.02
-45.	400.	15000.	19.81	8944.	19.86	8943.	0.05	-1.	0.25	-0.01
-45.	450.	3500.	5.66	2985.	5.67	2986.	0.00	1.	0.04	0.02
-45.	450.	15000.	18.92	9530.	18.95	9530.	0.03	0.	0.17	0.00
-45.	500.	4000.	5.90	3443.	5.90	3444.	0.00	1.	0.07	0.02
-45.	500.	15000.	18.16	10028.	18.18	10029.	0.01	1.	0.08	0.01
-45.	550.	4500.	6.10	3905.	6.11	3906.	0.01	1.	0.12	0.01
-45.	550.	15000.	17.57	10425.	17.57	10427.	0.00	1.	0.03	0.01
-60.	300.	4000.	7.29	1818.	7.31	1818.	0.01	-0.	0.20	-0.01
-60.	300.	15000.	20.43	4928.	20.43	4928.	0.00	0.	0.00	0.01
-60.	350.	4000.	6.57	1910.	6.58	1910.	0.01	0.	0.12	0.00
-60.	350.	15000.	19.14	5382.	19.17	5381.	0.03	-0.	0.14	-0.00
-60.	400.	5000.	7.25	2401.	7.27	2401.	0.02	-0.	0.24	-0.01
-60.	400.	15000.	18.03	5767.	18.04	5767.	0.01	0.	0.05	0.01
-60.	450.	5500.	7.24	2692.	7.26	2691.	0.02	-0.	0.26	-0.01
-60.	450.	15000.	16.98	6095.	17.05	6093.	0.07	-2.	0.41	-0.03
-60.	500.	6500.	7.76	3197.	7.80	3197.	0.03	-1.	0.41	-0.03
-60.	500.	15000.	16.18	6363.	16.23	6363.	0.05	-0.	0.29	-0.01
-60.	550.	7000.	7.75	3490.	7.80	3489.	0.05	-1.	0.60	-0.04
-60.	550.	15000.	15.55	6576.	15.58	6576.	0.03	0.	0.18	0.00

WEAPON COEFFICIENTS FOR IDNO 8

CFORM1 = 0.0	DKG1 = 0.0097670	DM1 = 0.0	VMUZ = 0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN = 0.	SL = 0.0
ITYPE = -1	IREF = 4	VE = 0.0		
IBOTH = 1	DMAX = 3.00	DTI = 2.00		

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.93	4247.	8.94	4244.	0.01	-3.	0.16	-0.07
10.	300.	3000.	16.95	7747.	16.97	7746.	0.02	-1.	0.13	-0.02
10.	350.	500.	9.59	5249.	9.59	5249.	0.00	-0.	0.02	-0.00
10.	350.	3000.	17.54	9199.	17.55	9199.	0.00	-0.	0.01	-0.00
10.	400.	500.	10.25	6335.	10.26	6334.	0.01	-1.	0.09	-0.02
10.	400.	3000.	18.12	10688.	18.12	10687.	0.01	-1.	0.05	-0.01
10.	450.	500.	10.91	7496.	10.93	7491.	0.02	-5.	0.19	-0.07
10.	450.	3000.	18.69	12209.	18.71	12207.	0.02	-2.	0.11	-0.01
10.	500.	500.	11.61	8717.	11.61	8717.	0.00	0.	0.03	0.00
10.	500.	3000.	19.29	13754.	19.29	13754.	0.00	0.	0.00	0.00
10.	550.	500.	12.29	10005.	12.30	10003.	0.01	-2.	0.10	-0.02
10.	550.	3000.	19.87	15324.	19.88	15323.	0.01	-0.	0.03	-0.00
0.	300.	1000.	7.99	3869.	7.99	3869.	0.01	-0.	0.06	-0.01
0.	300.	15000.	32.41	14124.	32.42	14123.	0.02	-1.	0.05	-0.01
0.	350.	1000.	8.00	4492.	8.01	4491.	0.01	-1.	0.08	-0.01
0.	350.	15000.	32.54	16302.	32.56	16301.	0.02	-1.	0.06	-0.01
0.	400.	1000.	8.02	5108.	8.03	5107.	0.01	-1.	0.09	-0.01
0.	400.	15000.	32.67	18432.	32.69	18430.	0.03	-2.	0.08	-0.01
0.	450.	1000.	8.04	5717.	8.04	5716.	0.01	-1.	0.10	-0.01
0.	450.	15000.	32.80	20512.	32.83	20510.	0.03	-2.	0.09	-0.01
0.	500.	1000.	8.05	6321.	8.06	6320.	0.01	-1.	0.11	-0.02
0.	500.	15000.	32.93	22546.	32.97	22543.	0.04	-3.	0.11	-0.01
0.	550.	500.	5.66	4958.	5.66	4957.	0.00	-0.	0.07	-0.01
0.	550.	15000.	33.11	24532.	33.11	24531.	-0.00	-1.	-0.01	-0.00
-10.	300.	1000.	5.70	2753.	5.71	2753.	0.00	0.	0.06	0.00
-10.	300.	3500.	12.66	5887.	12.67	5886.	0.02	-1.	0.13	-0.01
-10.	350.	1000.	5.42	3041.	5.42	3041.	0.00	0.	0.02	0.00
-10.	350.	4500.	14.41	7668.	14.43	7667.	0.01	-1.	0.10	-0.01
-10.	400.	1000.	5.15	3294.	5.15	3295.	0.00	0.	0.01	0.01
-10.	400.	6000.	16.85	10007.	16.88	10005.	0.03	-2.	0.16	-0.02

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	4.88	3523.	4.91	3519.	0.02	-4.	0.50	-0.13
-10.	450.	7000.	18.25	11948.	18.26	11947.	0.01	-0.	0.07	-0.00
-10.	500.	1000.	4.65	3720.	4.68	3717.	0.02	-3.	0.47	-0.09
-10.	500.	8500.	20.29	14430.	20.31	14429.	0.02	-1.	0.08	-0.00
-10.	550.	1000.	4.44	3895.	4.46	3893.	0.02	-2.	0.43	-0.06
-10.	550.	10000.	22.19	16974.	22.20	16974.	0.01	-0.	0.06	-0.00
-20.	300.	1500.	5.79	2665.	5.79	2665.	0.00	0.	0.07	0.00
-20.	300.	5500.	14.47	6354.	14.49	6353.	0.02	-1.	0.11	-0.01
-20.	350.	1500.	5.36	2873.	5.36	2873.	0.00	0.	0.03	0.01
-20.	350.	7000.	16.36	8209.	16.37	8209.	0.02	-0.	0.10	-0.00
-20.	400.	1500.	4.96	3047.	4.98	3044.	0.03	-3.	0.53	-0.09
-20.	400.	9000.	18.73	10502.	18.76	10501.	0.03	-1.	0.14	-0.01
-20.	450.	1500.	4.62	3187.	4.64	3186.	0.02	-2.	0.45	-0.06
-20.	450.	11000.	20.86	12870.	20.89	12869.	0.03	-1.	0.16	-0.01
-20.	500.	1500.	4.32	3304.	4.34	3303.	0.02	-1.	0.36	-0.03
-20.	500.	13000.	22.79	15312.	22.83	15310.	0.03	-2.	0.14	-0.01
-20.	550.	1500.	4.06	3402.	4.07	3402.	0.01	-0.	0.28	-0.01
-20.	550.	15000.	24.59	17821.	24.61	17820.	0.03	-1.	0.11	-0.01
-30.	300.	1500.	4.66	1997.	4.68	1996.	0.02	-1.	0.33	-0.04
-30.	300.	8000.	16.63	6648.	16.65	6647.	0.02	-0.	0.13	-0.01
-30.	350.	2000.	5.40	2666.	5.40	2666.	0.00	0.	0.03	0.01
-30.	350.	10500.	19.22	8747.	19.22	8747.	-0.00	0.	-0.00	0.00
-30.	400.	2000.	4.93	2794.	4.96	2792.	0.03	-2.	0.54	-0.07
-30.	400.	13500.	22.04	11195.	22.05	11195.	0.01	0.	0.05	0.00
-30.	450.	2000.	4.55	2893.	4.57	2892.	0.02	-1.	0.44	-0.03
-30.	450.	15000.	22.91	12921.	22.95	12920.	0.04	-2.	0.16	-0.01
-30.	500.	2500.	5.17	3602.	5.17	3603.	0.00	1.	0.02	0.01
-30.	500.	15000.	22.18	13796.	22.20	13796.	0.02	0.	0.07	0.00
-30.	550.	2500.	4.80	3698.	4.83	3696.	0.03	-2.	0.66	-0.06
-30.	550.	15000.	21.49	14598.	21.49	14598.	0.00	-0.	0.02	-0.00
-40.	300.	2500.	6.09	2282.	6.10	2282.	0.01	0.	0.13	0.00
-40.	300.	13000.	21.49	7412.	21.49	7412.	0.00	0.	0.01	0.00
-40.	350.	2500.	5.52	2407.	5.52	2407.	0.00	0.	0.04	0.01
-40.	350.	15000.	22.65	8983.	22.68	8983.	0.03	-0.	0.12	-0.00
-40.	400.	3000.	5.90	2922.	5.91	2923.	0.01	0.	0.12	0.01
-40.	400.	15000.	21.68	9762.	21.69	9762.	0.00	1.	0.02	0.01
-40.	450.	3000.	5.43	3022.	5.44	3022.	0.00	0.	0.04	0.01
-40.	450.	15000.	20.73	10458.	20.76	10458.	0.03	0.	0.15	0.00
-40.	500.	3500.	5.78	3548.	5.79	3548.	0.01	0.	0.11	0.01
-40.	500.	15000.	19.88	11079.	19.89	11080.	0.01	1.	0.04	0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	6.08	4079.	6.09	4080.	0.01	0.	0.21	0.00
-40.	550.	15000.	19.08	11636.	19.08	11637.	0.00	1.	0.00	0.01
-45.	300.	2500.	5.72	1982.	5.73	1983.	0.00	0.	0.07	0.01
-45.	300.	15000.	22.98	7278.	23.02	7278.	0.04	-0.	0.16	-0.01
-45.	350.	3000.	6.04	2425.	6.05	2426.	0.01	0.	0.14	0.01
-45.	350.	15000.	21.88	8030.	21.89	8030.	0.01	1.	0.03	0.01
-45.	400.	3000.	5.51	2522.	5.51	2523.	0.00	1.	0.05	0.02
-45.	400.	15000.	20.81	8694.	20.84	8694.	0.03	0.	0.16	0.00
-45.	450.	3500.	5.80	2971.	5.81	2972.	0.01	1.	0.11	0.02
-45.	450.	15000.	19.85	9280.	19.86	9281.	0.01	1.	0.04	0.01
-45.	500.	4000.	6.06	3426.	6.07	3426.	0.01	0.	0.18	0.00
-45.	500.	15000.	18.91	9801.	18.95	9801.	0.04	0.	0.21	0.00
-45.	550.	4500.	6.28	3885.	6.30	3885.	0.02	0.	0.28	0.00
-45.	550.	15000.	18.09	10260.	18.11	10261.	0.01	1.	0.08	0.01
-60.	300.	4000.	7.46	1807.	7.46	1807.	0.00	0.	0.02	0.01
-60.	300.	15000.	21.35	4804.	21.35	4804.	0.00	0.	0.00	0.01
-60.	350.	4000.	6.71	1901.	6.73	1900.	0.02	-0.	0.32	-0.01
-60.	350.	15000.	20.07	5252.	20.08	5252.	0.01	0.	0.06	0.01
-60.	400.	5000.	7.47	2386.	7.47	2386.	0.00	0.	0.03	0.01
-60.	400.	15000.	18.88	5638.	18.92	5637.	0.04	-1.	0.19	-0.01
-60.	450.	5500.	7.48	2674.	7.49	2675.	0.00	0.	0.03	0.01
-60.	450.	15000.	17.85	5968.	17.86	5969.	0.01	0.	0.04	0.00
-60.	500.	6500.	8.07	3174.	8.08	3174.	0.01	0.	0.15	0.01
-60.	500.	15000.	16.85	6255.	16.89	6255.	0.04	0.	0.23	0.00
-60.	550.	7000.	8.05	3467.	8.06	3467.	0.01	0.	0.16	0.01
-60.	550.	15000.	15.98	6503.	16.00	6503.	0.01	0.	0.07	0.00

WEAPON COEFFICIENTS FOR IDNO 9

CFORM1 = 2.0639992	DKG1 = 0.0	DM1 = 0.0	VMUZ = 0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN = 0.	SL = 0.0
ITYPE = -1	IREF = 1	VE = 0.0		
IBOTH = 1	DMAX = 5.00	DTI = 3.00		

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.93	4379.	8.93	4379.	0.00	0.	0.02	0.00
10.	300.	3000.	16.75	8109.	16.76	8108.	0.01	-1.	0.08	-0.02
10.	350.	500.	9.59	5465.	9.59	5464.	0.00	-1.	0.05	-0.01
10.	350.	3000.	17.32	9720.	17.32	9721.	0.00	0.	0.01	0.00
10.	400.	500.	10.27	6661.	10.27	6658.	0.01	-3.	0.08	-0.04
10.	400.	3000.	17.89	11408.	17.89	11408.	0.00	0.	0.01	0.00
10.	450.	500.	10.96	7967.	10.97	7960.	0.01	-8.	0.13	-0.10
10.	450.	3000.	18.47	13171.	18.47	13170.	0.01	-0.	0.03	-0.00
10.	500.	500.	11.69	9370.	11.69	9370.	0.00	0.	0.01	0.00
10.	500.	3000.	19.05	15006.	19.07	15005.	0.01	-1.	0.07	-0.00
10.	550.	500.	12.41	10887.	12.42	10886.	0.01	-1.	0.04	-0.01
10.	550.	3000.	19.65	16913.	19.67	16910.	0.02	-3.	0.10	-0.02
10.	600.	500.	13.10	12402.	13.11	12398.	0.01	-4.	0.09	-0.03
10.	600.	3000.	20.25	18727.	20.25	18726.	0.00	-1.	0.00	-0.00
10.	650.	500.	13.71	13715.	13.73	13705.	0.02	-10.	0.15	-0.07
10.	650.	3000.	20.78	20200.	20.78	20200.	0.00	0.	0.01	0.00
0.	300.	1500.	9.70	4825.	9.71	4825.	0.01	-0.	0.05	-0.01
0.	300.	15000.	31.15	14996.	31.17	14995.	0.02	-1.	0.05	-0.01
0.	350.	1000.	7.90	4599.	7.92	4595.	0.01	-4.	0.16	-0.09
0.	350.	15000.	31.21	17428.	31.23	17427.	0.02	-2.	0.07	-0.01
0.	400.	1000.	7.91	5247.	7.92	5242.	0.01	-5.	0.18	-0.10
0.	400.	15000.	31.29	19839.	31.31	19836.	0.03	-3.	0.09	-0.01
0.	450.	1000.	7.91	5892.	7.93	5886.	0.02	-7.	0.20	-0.11
0.	450.	15000.	31.39	22219.	31.43	22216.	0.04	-3.	0.11	-0.01
0.	500.	1000.	7.91	6535.	7.93	6527.	0.02	-8.	0.22	-0.12
0.	500.	15000.	31.56	24552.	31.61	24548.	0.05	-4.	0.15	-0.02
0.	550.	1000.	7.92	7176.	7.93	7166.	0.02	-10.	0.24	-0.14
0.	550.	15000.	31.81	26709.	31.87	26701.	0.06	-7.	0.18	-0.03
0.	600.	1000.	7.92	7770.	7.95	7757.	0.02	-13.	0.29	-0.17
0.	600.	15000.	32.17	28414.	32.17	28413.	-0.00	-0.	-0.00	-0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	650.	500.	5.59	5858.	5.59	5858.	0.00	-0.	0.04	-0.00
0.	650.	15000.	32.47	29768.	32.47	29767.	0.00	-1.	0.00	-0.00
-10.	300.	1000.	5.63	2780.	5.64	2780.	0.00	0.	0.03	0.01
-10.	300.	3500.	12.39	6037.	12.40	6038.	0.00	0.	0.04	0.00
-10.	350.	1000.	5.34	3071.	5.34	3071.	0.00	0.	0.01	0.01
-10.	350.	5000.	14.94	8418.	14.94	8418.	0.00	0.	0.02	0.00
-10.	400.	1000.	5.07	3327.	5.07	3327.	0.00	0.	0.01	0.01
-10.	400.	6500.	17.10	10917.	17.10	10917.	0.00	1.	0.00	0.01
-10.	450.	1000.	4.82	3553.	4.82	3553.	0.00	0.	0.00	0.00
-10.	450.	8000.	18.98	13537.	19.00	13536.	0.01	-0.	0.07	-0.00
-10.	500.	1000.	4.58	3751.	4.58	3752.	0.00	0.	0.02	0.01
-10.	500.	9500.	20.73	16263.	20.73	16263.	0.00	1.	0.02	0.00
-10.	550.	1500.	5.93	5313.	5.93	5313.	0.00	0.	0.06	0.00
-10.	550.	11500.	23.11	19483.	23.11	19484.	0.00	1.	0.00	0.00
-10.	600.	1500.	5.71	5542.	5.72	5543.	0.00	0.	0.05	0.01
-10.	600.	13000.	24.88	22000.	24.91	21999.	0.03	-1.	0.11	-0.00
-10.	650.	1500.	5.54	5719.	5.55	5719.	0.00	1.	0.05	0.01
-10.	650.	14500.	26.73	24291.	26.73	24292.	0.00	1.	0.01	0.01
-20.	300.	1500.	5.70	2686.	5.71	2686.	0.00	0.	0.03	0.01
-20.	300.	5500.	14.07	6517.	14.07	6517.	0.00	0.	0.00	0.00
-20.	350.	1500.	5.27	2893.	5.27	2894.	0.00	0.	0.01	0.01
-20.	350.	7500.	16.50	8849.	16.51	8848.	0.02	-1.	0.10	-0.01
-20.	400.	1500.	4.89	3064.	4.89	3064.	0.00	0.	0.01	0.01
-20.	400.	10000.	19.20	11664.	19.22	11663.	0.02	-1.	0.08	-0.01
-20.	450.	1500.	4.55	3204.	4.55	3204.	0.00	0.	0.02	0.01
-20.	450.	12000.	21.01	14220.	21.02	14220.	0.01	-0.	0.03	-0.00
-20.	500.	2000.	5.40	4210.	5.40	4210.	0.00	0.	0.02	0.01
-20.	500.	15000.	23.88	17570.	23.89	17570.	0.01	0.	0.03	0.00
-20.	550.	2000.	5.08	4355.	5.08	4355.	0.00	0.	0.01	0.01
-20.	550.	15000.	23.54	18632.	23.54	18632.	0.00	0.	0.01	0.00
-20.	600.	2000.	4.81	4470.	4.81	4470.	0.00	0.	0.01	0.00
-20.	600.	15000.	23.31	19467.	23.32	19467.	0.00	1.	0.00	0.00
-20.	650.	2000.	4.60	4553.	4.60	4554.	0.00	1.	0.04	0.01
-20.	650.	15000.	23.15	20142.	23.15	2014[illegible].	-0.00	1.	-0.00	0.01
-30.	300.	2000.	5.82	2523.	5.82	2524.	0.00	0.	0.03	0.01
-30.	300.	9000.	17.38	7372.	17.38	7372.	0.00	1.	0.01	0.01
-30.	350.	2000.	5.30	2681.	5.30	2682.	0.00	0.	0.02	0.01
-30.	350.	12000.	20.11	9865.	20.11	9865.	0.00	1.	0.00	0.01
-30.	400.	2000.	4.86	2806.	4.86	2806.	0.00	0.	0.00	0.01
-30.	400.	15000.	22.45	12478.	22.48	12476.	0.03	-2.	0.15	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.42	3513.	5.42	3513.	0.00	0.	0.02	0.01
-30.	450.	15000.	21.70	13468.	21.73	13468.	0.02	-1.	0.10	-0.01
-30.	500.	2500.	5.03	3624.	5.04	3624.	0.00	0.	0.01	0.01
-30.	500.	15000.	21.06	14345.	21.07	14345.	0.01	-0.	0.05	-0.00
-30.	550.	2500.	4.69	3714.	4.69	3715.	0.00	0.	0.02	0.01
-30.	550.	15000.	20.57	15071.	20.58	15071.	0.00	1.	0.02	0.00
-30.	600.	3000.	5.20	4444.	5.20	4444.	0.00	1.	0.02	0.02
-30.	600.	15000.	20.20	15645.	20.20	15646.	0.00	1.	0.00	0.01
-30.	650.	3500.	5.70	5164.	5.71	5164.	0.00	1.	0.08	0.01
-30.	650.	15000.	19.81	16120.	19.89	16116.	0.08	-4.	0.39	-0.03
-40.	300.	2500.	5.98	2295.	5.98	2295.	0.00	0.	0.04	0.01
-40.	300.	14000.	21.57	8037.	21.58	8037.	0.01	0.	0.05	0.00
-40.	350.	2500.	5.41	2419.	5.41	2419.	0.00	0.	0.02	0.02
-40.	350.	15000.	21.51	9309.	21.52	9309.	0.01	1.	0.06	0.01
-40.	400.	3000.	5.76	2940.	5.77	2940.	0.00	0.	0.03	0.01
-40.	400.	15000.	20.53	10109.	20.53	10110.	0.00	1.	0.01	0.01
-40.	450.	3000.	5.30	3038.	5.30	3038.	0.00	0.	0.01	0.01
-40.	450.	15000.	19.60	10816.	19.65	10814.	0.05	-2.	0.24	-0.02
-40.	500.	3500.	5.61	3568.	5.61	3569.	0.00	1.	0.04	0.02
-40.	500.	15000.	18.87	11420.	18.90	11420.	0.03	0.	0.17	0.00
-40.	550.	4000.	5.89	4106.	5.89	4106.	0.00	0.	0.06	0.01
-40.	550.	15000.	18.29	11914.	18.30	11914.	0.02	0.	0.09	0.00
-40.	600.	4500.	6.17	4640.	6.18	4640.	0.01	1.	0.15	0.01
-40.	600.	15000.	17.83	12301.	17.84	12302.	0.01	1.	0.04	0.01
-40.	650.	5000.	6.48	5166.	6.50	5165.	0.02	-0.	0.30	-0.01
-40.	650.	15000.	17.42	12626.	17.43	12628.	0.00	2.	0.01	0.01
-45.	300.	2500.	5.62	1992.	5.62	1992.	0.00	0.	0.02	0.02
-45.	300.	15000.	21.90	7527.	21.91	7527.	0.02	1.	0.07	0.01
-45.	350.	3000.	5.91	2439.	5.92	2439.	0.00	1.	0.05	0.02
-45.	350.	15000.	20.76	8300.	20.77	8301.	0.00	2.	0.02	0.02
-45.	400.	3000.	5.38	2535.	5.38	2535.	0.00	0.	0.02	0.02
-45.	400.	15000.	19.68	8978.	19.73	8978.	0.04	-0.	0.21	-0.00
-45.	450.	3500.	5.65	2988.	5.65	2988.	0.00	0.	0.03	0.01
-45.	450.	15000.	18.78	9566.	18.80	9567.	0.02	1.	0.13	0.01
-45.	500.	4000.	5.88	3446.	5.88	3447.	0.00	1.	0.06	0.02
-45.	500.	15000.	18.01	10066.	18.02	10068.	0.01	2.	0.06	0.02
-45.	550.	4500.	6.08	3909.	6.08	3909.	0.01	1.	0.10	0.02
-45.	550.	15000.	17.39	10472.	17.39	10474.	0.00	2.	0.02	0.02
-45.	600.	5500.	6.86	4751.	6.89	4751.	0.02	0.	0.35	0.0
-45.	600.	15000.	16.82	10794.	16.90	10791.	0.08	-2.	0.48	-0.02

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	650.	6000.	7.10	5204.	7.14	5203.	0.04	-1.	0.58	-0.02
-45.	650.	15000.	16.39	11063.	16.45	11061.	0.06	-1.	0.39	-0.01
-60.	300.	4000.	7.28	1820.	7.29	1819.	0.01	-0.	0.15	-0.01
-60.	300.	15000.	20.31	4945.	20.31	4946.	0.00	0.	0.00	0.01
-60.	350.	4000.	6.56	1912.	6.56	1912.	0.01	0.	0.10	0.00
-60.	350.	15000.	19.03	5399.	19.05	5399.	0.02	0.	0.11	0.00
-60.	400.	5000.	7.23	2403.	7.25	2403.	0.01	-0.	0.19	-0.00
-60.	400.	15000.	17.91	5785.	17.92	5785.	0.01	0.	0.03	0.01
-60.	450.	5500.	7.22	2694.	7.23	2694.	0.02	-0.	0.21	-0.00
-60.	450.	15000.	16.87	6113.	16.92	6111.	0.06	-2.	0.34	-0.03
-60.	500.	6500.	7.74	3201.	7.76	3200.	0.03	-1.	0.33	-0.02
-60.	500.	15000.	16.05	6383.	16.09	6383.	0.04	-0.	0.24	-0.01
-60.	550.	7000.	7.71	3494.	7.75	3493.	0.04	-1.	0.49	-0.03
-60.	550.	15000.	15.39	6599.	15.41	6599.	0.02	1.	0.14	0.01
-60.	600.	8500.	8.78	4215.	8.79	4215.	0.01	0.	0.07	0.01
-60.	600.	15000.	14.86	6767.	14.87	6768.	0.01	1.	0.06	0.01
-60.	650.	9500.	9.34	4712.	9.36	4712.	0.02	0.	0.22	0.01
-60.	650.	15000.	14.35	6912.	14.36	6913.	0.00	1.	0.01	0.01

WEAPON COEFFICIENTS FOR IDNO 10

CFORM1 = 1.4531993	DKG1 = 0.0	DM1 = 0.0	VMUZ = 0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN = 0.	SL = 0.0
ITYPE = -1	IREF = 1	VE = 0.0		
IBOTH = 1	DMAX = 5.00	DTI = 3.00		

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
10.	300.	500.	8.93	4401.	8.93	4401.	0.00	0.	0.01	0.00
10.	300.	3000.	16.72	8163.	16.73	8162.	0.01	-1.	0.06	-0.01
10.	350.	500.	9.59	5499.	9.60	5499.	0.00	-0.	0.04	-0.01
10.	350.	3000.	17.29	9799.	17.29	9800.	0.00	0.	0.00	0.00
10.	400.	500.	10.28	6712.	10.28	6710.	0.01	-2.	0.06	-0.03
10.	400.	3000.	17.86	11519.	17.86	11519.	0.00	0.	0.01	0.00
10.	450.	500.	10.98	8041.	10.99	8036.	0.01	-6.	0.09	-0.07
10.	450.	3000.	18.44	13320.	18.44	13320.	0.00	-0.	0.02	-0.00
10.	500.	500.	11.71	9476.	11.71	9477.	0.00	0.	0.01	0.00
10.	500.	3000.	19.03	15204.	19.04	15203.	0.01	-1.	0.04	-0.01
10.	550.	500.	12.44	11032.	12.44	11031.	0.00	-1.	0.03	-0.00
10.	550.	3000.	19.62	17168.	19.64	17165.	0.01	-2.	0.07	-0.01
10.	600.	500.	13.15	12611.	13.16	12608.	0.01	-3.	0.07	-0.02
10.	600.	3000.	20.24	19062.	20.24	19062.	0.00	1.	0.00	0.00
10.	650.	500.	13.80	14045.	13.82	14036.	0.02	-9.	0.13	-0.06
10.	650.	3000.	20.81	20676.	20.81	20675.	0.00	-1.	0.01	-0.00
0.	300.	1500.	9.69	4843.	9.69	4843.	0.00	-0.	0.04	-0.01
0.	300.	15000.	30.99	15122.	31.00	15121.	0.01	-1.	0.04	-0.01
0.	350.	1000.	7.90	4615.	7.91	4612.	0.01	-3.	0.11	-0.06
0.	350.	15000.	31.03	17593.	31.05	17592.	0.01	-1.	0.05	-0.01
0.	400.	1000.	7.90	5268.	7.91	5264.	0.01	-4.	0.13	-0.07
0.	400.	15000.	31.10	20046.	31.12	20044.	0.02	-1.	0.06	-0.01
0.	450.	1000.	7.90	5919.	7.91	5914.	0.01	-5.	0.14	-0.08
0.	450.	15000.	31.19	22475.	31.22	22472.	0.03	-3.	0.08	-0.01
0.	500.	1000.	7.90	6568.	7.92	6562.	0.01	-6.	0.16	-0.09
0.	500.	15000.	31.35	24858.	31.38	24855.	0.03	-2.	0.11	-0.01
0.	550.	1000.	7.91	7215.	7.92	7208.	0.01	-7.	0.17	-0.10
0.	550.	15000.	31.58	27082.	31.62	27077.	0.04	-4.	0.14	-0.02
0.	600.	1000.	7.91	7827.	7.93	7817.	0.02	-10.	0.22	-0.13
0.	600.	15000.	31.86	28930.	31.91	28923.	0.06	-7.	0.18	-0.02

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	650.	500.	5.59	5929.	5.59	5928.	0.00	-0.	0.03	-0.00
0.	650.	15000.	32.21	30443.	32.20	30444.	-0.00	1.	-0.00	0.00
-10.	300.	1000.	5.63	2785.	5.63	2785.	0.00	0.	0.02	0.01
-10.	300.	3500.	12.36	6060.	12.36	6060.	0.00	0.	0.03	0.00
-10.	350.	1000.	5.33	3077.	5.34	3077.	0.00	0.	0.01	0.01
-10.	350.	5000.	14.88	8459.	14.88	8459.	0.00	0.	0.02	0.00
-10.	400.	1000.	5.06	3334.	5.06	3334.	0.00	0.	0.01	0.01
-10.	400.	6500.	16.99	10985.	17.01	10984.	0.02	-1.	0.11	-0.01
-10.	450.	1000.	4.81	3561.	4.81	3561.	0.00	0.	0.00	0.00
-10.	450.	8000.	18.87	13634.	18.88	13634.	0.01	-0.	0.05	-0.00
-10.	500.	1000.	4.57	3760.	4.57	3760.	0.00	0.	0.01	0.01
-10.	500.	9500.	20.59	16396.	20.59	16396.	0.00	1.	0.01	0.00
-10.	550.	1500.	5.91	5327.	5.92	5328.	0.00	0.	0.04	0.01
-10.	550.	11500.	22.87	19681.	22.92	19676.	0.04	-5.	0.19	-0.02
-10.	600.	1500.	5.69	5562.	5.69	5563.	0.00	0.	0.04	0.01
-10.	600.	13000.	24.64	22301.	24.66	22301.	0.02	-0.	0.08	-0.00
-10.	650.	1500.	5.51	5752.	5.51	5753.	0.00	1.	0.04	0.01
-10.	650.	14500.	26.40	24749.	26.40	24751.	0.00	2.	0.00	0.01
-20.	300.	1500.	5.70	2689.	5.70	2689.	0.00	0.	0.02	0.00
-20.	300.	5500.	14.02	6540.	14.02	6540.	0.00	0.	0.00	0.00
-20.	350.	1500.	5.26	2897.	5.26	2898.	0.00	0.	0.01	0.01
-20.	350.	7500.	16.42	8890.	16.43	8889.	0.01	-1.	0.07	-0.01
-20.	400.	1500.	4.88	3068.	4.88	3068.	0.00	0.	0.01	0.01
-20.	400.	10000.	19.08	11730.	19.10	11730.	0.01	-0.	0.06	-0.00
-20.	45C.	1500.	4.54	3209.	4.54	3209.	0.00	0.	0.01	0.00
-20.	450.	12000.	20.86	14313.	20.86	14313.	0.00	0.	0.02	0.00
-20.	500.	2000.	5.38	4216.	5.38	4217.	0.00	0.	0.02	0.01
-20.	500.	15000.	23.66	17708.	23.66	17708.	0.00	0.	0.01	0.00
-20.	550.	2000.	5.06	4362.	5.06	4362.	0.00	0.	0.01	0.01
-20.	550.	15000.	23.27	18804.	23.28	18805.	0.00	1.	0.00	0.00
-20.	600.	2000.	4.79	4480.	4.79	4480.	0.00	0.	0.01	0.00
-20.	600.	15000.	22.93	19710.	22.99	19705.	0.06	-5.	0.28	-0.02
-20.	650.	2000.	4.56	4569.	4.56	4570.	0.00	0.	0.03	0.01
-20.	650.	15000.	22.68	20479.	22.74	20476.	0.06	-3.	0.25	-0.02
-30.	300.	2000.	5.81	2526.	5.81	2526.	0.00	0.	0.03	0.01
-30.	300.	9000.	17.29	7402.	17.29	7402.	0.00	1.	0.01	0.01
-30.	350.	2000.	5.29	2684.	5.29	2685.	0.00	0.	0.01	0.01
-30.	350.	12000.	19.96	9915.	19.98	9915.	0.02	-1.	0.10	-0.01
-30.	400.	2000.	4.85	2809.	4.85	2809.	0.00	0.	0.01	0.01
-30.	400.	15000.	22.28	12550.	22.31	12549.	0.02	-1.	0.11	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.40	3517.	5.41	3517.	0.00	1.	0.02	0.02
-30.	450.	15000.	21.52	13547.	21.53	13547.	0.02	0.	0.07	0.00
-30.	500.	2500.	5.02	3628.	5.02	3628.	0.00	0.	0.01	0.01
-30.	500.	15000.	20.85	14434.	20.86	14434.	0.01	0.	0.03	0.00
-30.	550.	2500.	4.68	3719.	4.68	3719.	0.00	0.	0.01	0.01
-30.	550.	15000.	20.31	15184.	20.31	15185.	0.00	1.	0.01	0.00
-30.	600.	3000.	5.17	4452.	5.17	4452.	0.00	1.	0.01	0.01
-30.	600.	15000.	19.81	15801.	19.87	15798.	0.06	-3.	0.32	-0.02
-30.	650.	3500.	5.65	5179.	5.65	5180.	0.00	1.	0.06	0.01
-30.	650.	15000.	19.41	16334.	19.46	16332.	0.05	-2.	0.26	-0.01
-40.	300.	2500.	5.97	2297.	5.97	2297.	0.00	0.	0.04	0.02
-40.	300.	14000.	21.43	8074.	21.44	8075.	0.01	1.	0.03	0.01
-40.	350.	2500.	5.40	2421.	5.40	2422.	0.00	0.	0.01	0.01
-40.	350.	15000.	21.36	9354.	21.37	9355.	0.01	1.	0.04	0.01
-40.	400.	3000.	5.75	2943.	5.75	2943.	0.00	0.	0.03	0.01
-40.	400.	15000.	20.36	10157.	20.37	10158.	0.00	1.	0.01	0.01
-40.	450.	3000.	5.28	3041.	5.28	3041.	0.00	1.	0.02	0.02
-40.	450.	15000.	19.44	10866.	19.47	10866.	0.04	-1.	0.19	-0.01
-40.	500.	3500.	5.59	3572.	5.59	3573.	0.00	1.	0.02	0.01
-40.	500.	15000.	18.68	11478.	18.70	11478.	0.02	0.	0.11	0.00
-40.	550.	4000.	5.86	4110.	5.87	4110.	0.00	0.	0.05	0.01
-40.	550.	15000.	18.04	11987.	18.05	11987.	0.01	0.	0.05	0.00
-40.	600.	4500.	6.13	4647.	6.13	4648.	0.01	1.	0.12	0.01
-40.	600.	15000.	17.52	12400.	17.52	12401.	0.00	1.	0.02	0.01
-40.	650.	5000.	6.41	5180.	6.43	5180.	0.01	-0.	0.23	-0.00
-40.	650.	15000.	16.93	12768.	17.01	12764.	0.08	-4.	0.45	-0.03
-45.	300.	2500.	5.61	1994.	5.61	1994.	0.00	0.	0.02	0.02
-45.	300.	15000.	21.75	7561.	21.76	7562.	0.01	1.	0.05	0.01
-45.	350.	3000.	5.90	2441.	5.90	2442.	0.00	0.	0.03	0.01
-45.	350.	15000.	20.61	8337.	20.61	8339.	0.00	2.	0.01	0.02
-45.	400.	3000.	5.37	2537.	5.37	2537.	0.00	0.	0.01	0.02
-45.	400.	15000.	19.54	9017.	19.57	9018.	0.03	1.	0.16	0.01
-45.	450.	3500.	5.63	2990.	5.63	2991.	0.00	1.	0.03	0.02
-45.	450.	15000.	18.62	9608.	18.63	9609.	0.02	1.	0.09	0.01
-45.	500.	4000.	5.85	3450.	5.86	3450.	0.00	1.	0.04	0.02
-45.	500.	15000.	17.82	10113.	17.82	10114.	0.01	1.	0.03	0.01
-45.	550.	4500.	6.05	3913.	6.05	3914.	0.00	1.	0.08	0.02
-45.	550.	15000.	17.15	10530.	17.15	10532.	0.00	2.	0.01	0.02
-45.	600.	5500.	6.82	4759.	6.83	4759.	0.02	0.	0.27	0.01
-45.	600.	15000.	16.53	10872.	16.59	10871.	0.06	-1.	0.34	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	650.	6000.	7.02	5219.	7.05	5218.	0.03	-1.	0.44	-0.01
-45.	650.	15000.	16.00	11169.	16.04	11170.	0.04	1.	0.24	0.00
-60.	300.	4000.	7.26	1821.	7.27	1821.	0.01	0.	0.11	0.00
-60.	300.	15000.	20.17	4965.	20.17	4965.	-0.00	0.	-0.00	0.00
-60.	350.	4000.	6.54	1913.	6.54	1913.	0.00	0.	0.08	0.01
-60.	350.	15000.	18.89	5419.	18.91	5419.	0.02	0.	0.08	0.00
-60.	400.	5000.	7.21	2406.	7.22	2406.	0.01	-0.	0.14	-0.00
-60.	400.	15000.	17.77	5805.	17.77	5806.	0.00	0.	0.02	0.01
-60.	450.	5500.	7.19	2697.	7.20	2697.	0.01	-0.	0.15	-0.00
-60.	450.	15000.	16.73	6134.	16.77	6133.	0.04	-1.	0.26	-0.02
-60.	500.	6500.	7.70	3204.	7.72	3204.	0.02	-1.	0.24	-0.02
-60.	500.	15000.	15.88	6406.	15.91	6406.	0.03	0.	0.17	0.00
-60.	550.	7000.	7.67	3498.	7.70	3498.	0.03	-1.	0.38	-0.01
-60.	550.	15000.	15.18	6628.	15.19	6628.	0.01	1.	0.08	0.01
-60.	600.	8500.	8.69	4224.	8.69	4225.	0.00	0.	0.04	0.01
-60.	600.	15000.	14.57	6807.	14.58	6807.	0.00	1.	0.02	0.01
-60.	650.	9500.	9.18	4730.	9.19	4730.	0.01	0.	0.14	0.01
-60.	650.	15000.	13.90	6967.	13.98	6964.	0.08	-2.	0.56	-0.03

WEAPON COEFFICIENTS FOR IDNO 11

CFORM1 = 1.3430996 DKG1 = 0.0 DM1 = 0.0 VMUZ = 0. DS = 0.0
CFORM2 = 0.0 DKG2 = 0.0 DM2 = 0.0 FN = 0. SL = 0.0

ITYPE = -1 IREF = 1 VE = 0.0
IBOTH = 1 DMAX = 5.00 DTI = 1.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.93	4406.	8.94	4407.	0.00	1.	0.03	0.02
10.	300.	3000.	16.72	8177.	16.73	8177.	0.01	0.	0.08	0.01
10.	350.	500.	9.60	5508.	9.60	5509.	0.01	1.	0.05	0.01
10.	350.	3000.	17.28	9820.	17.29	9822.	0.00	2.	0.02	0.02
10.	400.	500.	10.28	6726.	10.29	6726.	0.01	0.	0.08	0.00
10.	400.	3000.	17.85	11548.	17.86	11550.	0.01	2.	0.03	0.02
10.	450.	500.	10.98	8061.	10.99	8059.	0.01	-2.	0.12	-0.03
10.	450.	3000.	18.43	13360.	18.44	13362.	0.01	2.	0.04	0.02
10.	500.	500.	11.71	9505.	11.72	9509.	0.01	4.	0.05	0.04
10.	500.	3000.	19.02	15256.	19.03	15259.	0.01	3.	0.07	0.02
10.	550.	500.	12.44	11070.	12.45	11074.	0.01	4.	0.07	0.04
10.	550.	3000.	19.62	17236.	19.64	17238.	0.02	2.	0.10	0.01
10.	600.	500.	13.16	12669.	13.17	12672.	0.01	3.	0.11	0.02
10.	600.	3000.	20.23	19155.	20.24	19161.	0.01	7.	0.04	0.03
10.	650.	500.	13.82	14138.	13.85	14140.	0.03	2.	0.19	0.02
10.	650.	3000.	20.81	20813.	20.83	20822.	0.01	10.	0.06	0.05
0.	300.	1500.	9.69	4848.	9.69	4848.	0.00	0.	0.05	0.01
0.	300.	15000.	30.94	15156.	30.96	15155.	0.02	-0.	0.06	-0.00
0.	350.	1500.	9.69	5648.	9.70	5648.	0.01	0.	0.05	0.00
0.	350.	15000.	30.99	17637.	31.01	17636.	0.02	-1.	0.07	-0.00
0.	400.	1500.	9.70	6446.	9.70	6446.	0.01	0.	0.06	0.01
0.	400.	15000.	31.05	20102.	31.07	20101.	0.03	-1.	0.09	-0.01
0.	450.	1000.	7.90	5926.	7.91	5922.	0.01	-3.	0.15	-0.05
0.	450.	15000.	31.14	22544.	31.17	22542.	0.04	-1.	0.11	-0.01
0.	500.	1000.	7.90	6576.	7.92	6573.	0.01	-4.	0.17	-0.06
0.	500.	15000.	31.28	24942.	31.33	24941.	0.04	-1.	0.14	-0.00
0.	550.	1000.	7.90	7226.	7.92	7221.	0.01	-5.	0.18	-0.06
0.	550.	15000.	31.51	27186.	31.56	27186.	0.05	0.	0.17	0.00
0.	600.	1000.	7.91	7842.	7.93	7836.	0.02	-7.	0.24	-0.08
0.	600.	15000.	31.78	29078.	31.84	29081.	0.06	3.	0.20	0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	650.	1000.	7.92	8395.	7.95	8384.	0.03	-10.	0.34	-0.12
0.	650.	15000.	32.11	30649.	32.13	30658.	0.01	10.	0.04	0.03
-10.	300.	1500.	7.33	3623.	7.33	3623.	0.01	-0.	0.09	-0.01
-10.	300.	4000.	13.36	6557.	13.37	6557.	0.01	0.	0.08	0.01
-10.	350.	1500.	7.01	4039.	7.01	4039.	0.01	-0.	0.09	-0.01
-10.	350.	5000.	14.87	8470.	14.87	8471.	0.00	1.	0.03	0.01
-10.	400.	1500.	6.71	4414.	6.71	4414.	0.00	-0.	0.07	-0.00
-10.	400.	6500.	16.97	11003.	16.99	11003.	0.02	-0.	0.12	-0.00
-10.	450.	1500.	6.42	4752.	6.43	4752.	0.00	0.	0.07	0.00
-10.	450.	8000.	18.84	13660.	18.86	13661.	0.01	2.	0.07	0.01
-10.	500.	1500.	6.16	5056.	6.16	5057.	0.00	0.	0.05	0.01
-10.	500.	10000.	21.20	16927.	21.21	16929.	0.01	3.	0.07	0.02
-10.	550.	1500.	5.91	5331.	5.91	5331.	0.00	0.	0.04	0.01
-10.	550.	12000.	23.47	20212.	23.48	20216.	0.01	4.	0.06	0.02
-10.	600.	1500.	5.68	5567.	5.69	5568.	0.00	1.	0.04	0.01
-10.	600.	14000.	25.70	23334.	25.76	23335.	0.06	1.	0.24	0.01
-10.	650.	1500.	5.50	5761.	5.50	5762.	0.00	1.	0.04	0.01
-10.	650.	15000.	26.85	25364.	26.87	25374.	0.02	10.	0.07	0.04
-20.	300.	1500.	5.69	2690.	5.69	2690.	0.00	0.	0.02	0.01
-20.	300.	6000.	14.81	6916.	14.81	6917.	0.00	1.	0.03	0.01
-20.	350.	1500.	5.26	2899.	5.26	2899.	0.00	0.	0.01	0.00
-20.	350.	8000.	17.10	9269.	17.11	9270.	0.00	1.	0.03	0.01
-20.	400.	2000.	6.12	3844.	6.12	3844.	0.00	0.	0.04	0.01
-20.	400.	10000.	19.05	11748.	19.07	11749.	0.01	1.	0.07	0.00
-20.	450.	2000.	5.73	4047.	5.73	4047.	0.00	0.	0.03	0.01
-20.	450.	12500.	21.38	14711.	21.39	14712.	0.02	0.	0.08	0.00
-20.	500.	2000.	5.38	4218.	5.38	4219.	0.00	0.	0.02	0.01
-20.	500.	15000.	23.59	17745.	23.61	17747.	0.02	2.	0.06	0.01
-20.	550.	2000.	5.06	4363.	5.06	4364.	0.00	1.	0.01	0.01
-20.	550.	15000.	23.20	18854.	23.21	18858.	0.01	4.	0.05	0.02
-20.	60C.	2000.	4.78	4482.	4.78	4482.	0.00	0.	0.01	0.01
-20.	600.	15000.	22.83	19779.	22.90	19780.	0.07	1.	0.30	0.01
-20.	650.	2000.	4.55	4574.	4.55	4574.	0.00	0.	0.03	0.01
-20.	650.	15000.	22.56	20578.	22.62	20583.	0.06	5.	0.27	0.02
-30.	300.	2000.	5.80	2527.	5.80	2527.	0.00	0.	0.02	0.01
-30.	300.	9000.	17.27	7409.	17.27	7410.	0.00	1.	0.03	0.01
-30.	350.	2000.	5.29	2685.	5.29	2685.	0.00	0.	0.01	0.01
-30.	350.	12000.	19.93	9928.	19.95	9928.	0.02	1.	0.12	0.01
-30.	400.	2500.	5.84	3382.	5.84	3382.	0.00	1.	0.04	0.02
-30.	400.	15000.	22.24	12568.	22.27	12568.	0.03	0.	0.15	0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.40	3518.	5.40	3518.	0.00	0.	0.01	0.01
-30.	450.	15000.	21.47	13568.	21.49	13569.	0.02	1.	0.11	0.01
-30.	500.	2500.	5.01	3629.	5.02	3629.	0.00	0.	0.01	0.01
-30.	500.	15000.	20.79	14458.	20.81	14460.	0.02	2.	0.08	0.01
-30.	550.	3000.	5.49	4358.	5.49	4359.	0.00	1.	0.02	0.01
-30.	550.	15000.	20.23	15216.	20.25	15219.	0.01	4.	0.07	0.02
-30.	600.	3000.	5.16	4453.	5.16	4454.	0.00	1.	0.02	0.02
-30.	600.	15000.	19.71	15846.	19.78	15847.	0.07	1.	0.34	0.01
-30.	650.	3500.	5.63	5184.	5.63	5184.	0.00	1.	0.06	0.01
-30.	650.	15000.	19.28	16397.	19.34	16400.	0.05	3.	0.28	0.02
-40.	300.	2500.	5.97	2298.	5.97	2298.	0.00	0.	0.02	0.00
-40.	300.	15000.	22.40	8457.	22.42	8457.	0.02	0.	0.10	0.01
-40.	350.	2500.	5.39	2422.	5.39	2422.	0.00	0.	0.02	0.02
-40.	350.	15000.	21.32	9366.	21.33	9367.	0.02	1.	0.07	0.01
-40.	400.	3000.	5.74	2944.	5.75	2944.	0.00	0.	0.03	0.02
-40.	400.	15000.	20.32	10170.	20.33	10172.	0.01	2.	0.06	0.02
-40.	450.	3000.	5.28	3041.	5.28	3042.	0.00	1.	0.02	0.02
-40.	450.	15000.	19.39	10880.	19.43	10880.	0.04	0.	0.23	0.00
-40.	500.	3500.	5.59	3573.	5.59	3574.	0.00	1.	0.02	0.02
-40.	500.	15000.	18.62	11493.	18.65	11495.	0.03	2.	0.16	0.01
-40.	550.	4000.	5.86	4111.	5.86	4112.	0.00	1.	0.06	0.02
-40.	550.	15000.	17.97	12007.	17.99	12009.	0.02	2.	0.12	0.02
-40.	600.	4500.	6.12	4650.	6.12	4650.	0.01	0.	0.11	0.01
-40.	600.	15000.	17.42	12429.	17.43	12432.	0.01	4.	0.07	0.03
-40.	650.	5000.	6.39	5184.	6.40	5184.	0.01	0.	0.22	0.01
-40.	650.	15000.	16.81	12806.	16.89	12807.	0.08	1.	0.45	0.01
-45.	300.	2500.	5.61	1994.	5.61	1995.	0.00	0.	0.02	0.02
-45.	300.	15000.	21.72	7570.	21.73	7571.	0.02	1.	0.07	0.01
-45.	350.	3000.	5.89	2442.	5.90	2442.	0.00	0.	0.03	0.02
-45.	350.	15000.	20.57	8347.	20.58	8349.	0.01	2.	0.05	0.02
-45.	400.	3000.	5.36	2538.	5.36	2538.	0.00	1.	0.01	0.02
-45.	400.	15000.	19.50	9028.	19.53	9029.	0.04	1.	0.19	0.01
-45.	450.	3500.	5.63	2991.	5.63	2992.	0.00	1.	0.03	0.02
-45.	450.	15000.	18.57	9619.	18.60	9620.	0.03	2.	0.14	0.02
-45.	500.	4000.	5.85	3451.	5.85	3451.	0.00	1.	0.03	0.02
-45.	500.	15000.	17.76	10126.	17.78	10128.	0.02	2.	0.09	0.02
-45.	550.	4500.	6.04	3914.	6.05	3915.	0.00	0.	0.07	0.01
-45.	550.	15000.	17.08	10547.	17.09	10550.	0.01	4.	0.08	0.03
-45.	600.	5500.	6.80	4761.	6.82	4762.	0.02	1.	0.26	0.01
-45.	600.	15000.	16.45	10894.	16.50	10896.	0.06	2.	0.36	0.02

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	650.	6000.	6.99	5223.	7.02	5223.	0.03	0.	0.42	0.00
-45.	650.	15000.	15.89	11200.	15.93	11203.	0.04	3.	0.25	0.03
-60.	300.	4000.	7.25	1822.	7.26	1822.	0.01	0.	0.11	0.00
-60.	300.	15000.	20.14	4970.	20.15	4970.	0.01	1.	0.03	0.01
-60.	350.	4000.	6.54	1914.	6.54	1914.	0.00	0.	0.07	0.01
-60.	350.	15000.	18.86	5424.	18.88	5425.	0.02	1.	0.11	0.01
-60.	400.	5000.	7.20	2406.	7.21	2406.	0.01	0.	0.13	0.00
-60.	400.	15000.	17.73	5811.	17.74	5811.	0.01	1.	0.07	0.01
-60.	450.	5500.	7.18	2698.	7.19	2698.	0.01	0.	0.14	0.00
-60.	450.	15000.	16.69	6139.	16.74	6139.	0.05	-0.	0.30	-0.01
-60.	500.	6500.	7.69	3205.	7.71	3205.	0.02	-0.	0.25	-0.01
-60.	500.	15000.	15.84	6412.	15.87	6413.	0.03	1.	0.22	0.01
-60.	550.	7000.	7.66	3500.	7.69	3499.	0.03	-1.	0.38	-0.01
-60.	550.	15000.	15.12	6636.	15.14	6637.	0.02	1.	0.13	0.02
-60.	600.	8500.	8.66	4227.	8.67	4228.	0.01	1.	0.11	0.03
-60.	600.	15000.	14.49	6818.	14.50	6820.	0.01	2.	0.08	0.03
-60.	650.	9500.	9.14	4735.	9.15	4736.	0.01	1.	0.16	0.02
-60.	650.	15000.	13.81	6981.	13.89	6980.	0.08	-0.	0.55	-0.00

WEAPON COEFFICIENTS FOR IDNO 12

CFORM1 = 1.2099991   DKG1 = 0.0   DM1 = 0.0   VMUZ = 0.   DS = 0.0
CFORM2 = 0.0   DKG2 = 0.0   DM2 = 0.0   FN = 0.   SL = 0.0

ITYPE = -1   IREF = 1   VE = 0.0
IBOTH = 1   DMAX = 5.00   DTI = 3.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.93	4412.	8.94	4412.	0.00	0.	0.01	0.00
10.	300.	3000.	16.71	8190.	16.72	8189.	0.01	-1.	0.05	-0.01
10.	350.	500.	9.60	5516.	9.60	5516.	0.00	-0.	0.03	-0.01
10.	350.	3000.	17.28	9839.	17.28	9839.	0.00	0.	0.00	0.00
10.	400.	500.	10.28	6738.	10.29	6736.	0.01	-2.	0.05	-0.02
10.	400.	3000.	17.84	11575.	17.85	11575.	0.00	0.	0.01	0.00
10.	450.	500.	10.98	8078.	10.99	8074.	0.01	-5.	0.08	-0.06
10.	450.	3000.	18.42	13396.	18.43	13396.	0.00	-0.	0.02	-0.00
10.	500.	500.	11.71	9530.	11.72	9530.	0.00	1.	0.01	0.01
10.	500.	3000.	19.01	15303.	19.02	15303.	0.01	-0.	0.04	-0.00
10.	550.	500.	12.45	11105.	12.45	11105.	0.00	-0.	0.03	-0.00
10.	550.	3000.	19.61	17297.	19.62	17295.	0.01	-1.	0.06	-0.01
10.	600.	500.	13.17	12720.	13.18	12717.	0.01	-3.	0.06	-0.02
10.	600.	3000.	20.23	19239.	20.23	19239.	0.00	-0.	0.00	-0.00
10.	650.	500.	13.84	14224.	13.86	14215.	0.02	-8.	0.12	-0.06
10.	650.	3000.	20.82	20940.	20.82	20940.	0.00	0.	0.01	0.00
0.	300.	1500.	9.68	4852.	9.69	4851.	0.00	-0.	0.03	-0.01
0.	300.	15000.	30.90	15186.	30.91	15185.	0.01	-1.	0.03	-0.01
0.	350.	1500.	9.69	5653.	9.69	5653.	0.00	-0.	0.04	-0.01
0.	350.	15000.	30.94	17676.	30.96	17675.	0.01	-1.	0.04	-0.01
0.	400.	1500.	9.69	6453.	9.70	6452.	0.00	-1.	0.04	-0.01
0.	400.	15000.	31.00	20151.	31.02	20149.	0.02	-2.	0.05	-0.01
0.	450.	1000.	7.90	5932.	7.91	5928.	0.01	-4.	0.12	-0.06
0.	450.	15000.	31.09	22605.	31.11	22603.	0.02	-2.	0.07	-0.01
0.	500.	1000.	7.90	6584.	7.91	6579.	0.01	-5.	0.13	-0.07
0.	500.	15000.	31.23	25017.	31.25	25014.	0.03	-3.	0.09	-0.01
0.	550.	1000.	7.90	7235.	7.91	7229.	0.01	-6.	0.14	-0.08
0.	550.	15000.	31.44	27282.	31.48	27279.	0.04	-3.	0.11	-0.01
0.	600.	1000.	7.91	7856.	7.92	7848.	0.01	-8.	0.18	-0.11
0.	600.	15000.	31.70	29219.	31.74	29214.	0.05	-5.	0.14	-0.02

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	650.	1000.	7.92	8419.	7.94	8405.	0.02	-14.	0.28	-0.16
0.	650.	15000.	31.96	30853.	32.02	30846.	0.05	-6.	0.17	-0.02
-10.	300.	1500.	7.32	3625.	7.33	3625.	0.01	-0.	0.08	-0.01
-10.	300.	4000.	13.35	6563.	13.36	6562.	0.01	-0.	0.05	-0.00
-10.	350.	1500.	7.01	4041.	7.01	4041.	0.00	-0.	0.07	-0.01
-10.	350.	5000.	14.85	8479.	14.85	8480.	0.00	1.	0.01	0.01
-10.	400.	1500.	6.70	4417.	6.71	4416.	0.00	-0.	0.06	-0.00
-10.	400.	6500.	16.96	11018.	16.97	11017.	0.01	-1.	0.08	-0.01
-10.	450.	1500.	6.42	4755.	6.43	4755.	0.00	-0.	0.06	-0.00
-10.	450.	8000.	18.82	13683.	18.82	13682.	0.01	-0.	0.04	-0.00
-10.	500.	1500.	6.15	5060.	6.16	5060.	0.00	0.	0.05	0.00
-10.	500.	10000.	21.16	16961.	21.17	16961.	0.01	0.	0.03	0.00
-10.	550.	1500.	5.90	5334.	5.91	5335.	0.00	0.	0.04	0.01
-10.	550.	12000.	23.42	20264.	23.42	20264.	0.00	0.	0.00	0.00
-10.	600.	1500.	5.68	5572.	5.68	5573.	0.00	1.	0.04	0.01
-10.	600.	14000.	25.62	23422.	25.67	23419.	0.04	-3.	0.17	-0.01
-10.	650.	1500.	5.49	5769.	5.49	5770.	0.00	1.	0.03	0.01
-10.	650.	15000.	26.73	25507.	26.74	25509.	0.00	2.	0.01	0.01
-20.	300.	1500.	5.69	2691.	5.69	2691.	0.00	0.	0.02	0.01
-20.	300.	6000.	14.79	6922.	14.80	6922.	0.00	0.	0.01	0.00
-20.	350.	1500.	5.26	2899.	5.26	2900.	0.00	0.	0.01	0.01
-20.	350.	8000.	17.08	9280.	17.08	9280.	0.00	0.	0.00	0.00
-20.	400.	2000.	6.11	3846.	6.12	3846.	0.00	0.	0.04	0.01
-20.	400.	10000.	19.02	11764.	19.03	11763.	0.01	-0.	0.05	-0.00
-20.	450.	2000.	5.73	4048.	5.73	4049.	0.00	0.	0.02	0.01
-20.	450.	12500.	21.34	14734.	21.34	14734.	0.01	0.	0.04	0.00
-20.	500.	2000.	5.37	4220.	5.37	4220.	0.00	0.	0.01	0.01
-20.	500.	15000.	23.53	17779.	23.53	17780.	0.00	1.	0.01	0.00
-20.	550.	2000.	5.06	4365.	5.06	4366.	0.00	0.	0.01	0.01
-20.	550.	15000.	23.12	18898.	23.12	18899.	0.00	1.	0.00	0.00
-20.	600.	2000.	4.78	4484.	4.78	4485.	0.00	0.	0.01	0.00
-20.	600.	15000.	22.74	19843.	22.79	19839.	0.05	-4.	0.22	-0.02
-20.	650.	2000.	4.54	4578.	4.54	4578.	0.00	0.	0.03	0.00
-20.	650.	15000.	22.44	20672.	22.48	20670.	0.04	-1.	0.19	-0.01
-30.	300.	2000.	5.80	2528.	5.80	2528.	0.00	0.	0.02	0.01
-30.	300.	9000.	17.25	7417.	17.25	7417.	0.00	0.	0.00	0.01
-30.	350.	2000.	5.29	2686.	5.29	2686.	0.00	0.	0.01	0.01
-30.	350.	12000.	19.90	9940.	19.91	9939.	0.02	-0.	0.08	-0.00
-30.	400.	2500.	5.83	3383.	5.84	3383.	0.00	0.	0.03	0.01
-30.	400.	15000.	22.20	12585.	22.22	12585.	0.02	-0.	0.09	-0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.40	3519.	5.40	3519.	0.00	0.	0.02	0.01
-30.	450.	15000.	21.42	13587.	21.43	13587.	0.01	0.	0.05	0.00
-30.	500.	2500.	5.01	3630.	5.01	3630.	0.00	0.	0.00	0.01
-30.	500.	15000.	20.74	14481.	20.74	14481.	0.00	0.	0.02	0.00
-30.	550.	3000.	5.48	4360.	5.48	4360.	0.00	1.	0.02	0.01
-30.	550.	15000.	20.16	15245.	20.16	15246.	0.00	1.	0.00	0.01
-30.	600.	3000.	5.16	4455.	5.16	4456.	0.00	0.	0.01	0.01
-30.	600.	15000.	19.63	15887.	19.67	15885.	0.05	-2.	0.25	-0.01
-30.	650.	3500.	5.62	5187.	5.62	5188.	0.00	1.	0.05	0.01
-30.	650.	15000.	19.16	16455.	19.20	16454.	0.04	-1.	0.19	-0.00
-40.	300.	2500.	5.96	2298.	5.97	2299.	0.00	0.	0.02	0.01
-40.	300.	15000.	22.36	8466.	22.38	8466.	0.01	-0.	0.07	-0.00
-40.	350.	2500.	5.39	2422.	5.39	2423.	0.00	0.	0.02	0.02
-40.	350.	15000.	21.28	9376.	21.29	9377.	0.01	1.	0.03	0.01
-40.	400.	3000.	5.74	2944.	5.74	2945.	0.00	0.	0.03	0.01
-40.	400.	15000.	20.28	10182.	20.28	10183.	0.00	1.	0.01	0.01
-40.	450.	3000.	5.27	3042.	5.27	3043.	0.00	1.	0.02	0.02
-40.	450.	15000.	19.35	10892.	19.38	10892.	0.03	0.	0.15	0.00
-40.	500.	3500.	5.58	3574.	5.58	3575.	0.00	0.	0.02	0.01
-40.	500.	15000.	18.57	11507.	18.59	11508.	0.02	1.	0.09	0.01
-40.	550.	4000.	5.85	4112.	5.85	4113.	0.00	0.	0.04	0.01
-40.	550.	15000.	17.90	12026.	17.91	12027.	0.01	1.	0.04	0.01
-40.	600.	4500.	6.11	4651.	6.11	4652.	0.01	1.	0.10	0.01
-40.	600.	15000.	17.33	12454.	17.33	12456.	0.00	2.	0.01	0.01
-40.	650.	5000.	6.37	5187.	6.39	5188.	0.01	1.	0.20	0.01
-40.	650.	15000.	16.71	12841.	16.76	12839.	0.06	-2.	0.34	-0.02
-45.	300.	2500.	5.61	1995.	5.61	1995.	0.00	0.	0.01	0.01
-45.	300.	15000.	21.68	7578.	21.69	7579.	0.01	1.	0.04	0.01
-45.	350.	3000.	5.89	2442.	5.89	2443.	0.00	1.	0.03	0.03
-45.	350.	15000.	20.54	8356.	20.54	8357.	0.00	1.	0.01	0.02
-45.	400.	3000.	5.36	2538.	5.36	2539.	0.00	1.	0.01	0.02
-45.	400.	15000.	19.46	9038.	19.49	9038.	0.02	0.	0.13	0.00
-45.	450.	3500.	5.62	2992.	5.62	2993.	0.00	1.	0.03	0.02
-45.	450.	15000.	18.53	9629.	18.54	9630.	0.01	1.	0.08	0.01
-45.	500.	4000.	5.84	3452.	5.84	3452.	0.00	0.	0.03	0.01
-45.	500.	15000.	17.71	10137.	17.72	10138.	0.00	2.	0.02	0.02
-45.	550.	4500.	6.04	3915.	6.04	3916.	0.00	1.	0.06	0.01
-45.	550.	15000.	16.96	10565.	17.01	10563.	0.06	-2.	0.34	-0.02
-45.	600.	5500.	6.79	4763.	6.81	4764.	0.02	1.	0.23	0.01
-45.	600.	15000.	16.37	10915.	16.41	10915.	0.04	0.	0.26	0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	PLM VERSION NPS MODIFIED BOEING ALGORITHM DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
-45.	650.	6000.	6.97	5226.	7.00	5226.	0.03	0.	0.37	0.0
-45.	650.	15000.	15.79	11226.	15.81	11227.	0.03	1.	0.17	0.01
-60.	300.	4000.	7.25	1822.	7.26	1822.	0.01	0.	0.09	0.00
-60.	300.	15000.	20.11	4974.	20.11	4974.	-0.00	0.	-0.00	0.01
-60.	350.	4000.	6.53	1914.	6.53	1914.	0.00	0.	0.06	0.01
-60.	350.	15000.	18.83	5429.	18.84	5429.	0.01	0.	0.06	0.00
-60.	400.	5000.	7.20	2407.	7.21	2407.	0.01	0.	0.11	0.00
-60.	400.	15000.	17.69	5815.	17.70	5816.	0.00	1.	0.02	0.01
-60.	450.	5500.	7.18	2698.	7.19	2698.	0.01	0.	0.12	0.01
-60.	450.	15000.	16.65	6144.	16.69	6143.	0.04	-1.	0.21	-0.01
-60.	500.	6500.	7.69	3206.	7.70	3206.	0.02	-0.	0.21	-0.00
-60.	500.	15000.	15.79	6418.	15.82	6418.	0.02	0.	0.13	0.00
-60.	550.	7000.	7.65	3501.	7.68	3500.	0.02	-1.	0.30	-0.02
-60.	550.	15000.	15.06	6643.	15.07	6644.	0.01	1.	0.06	0.01
-60.	600.	8500.	8.64	4229.	8.64	4230.	0.00	0.	0.04	0.01
-60.	600.	15000.	14.41	6828.	14.42	6829.	0.00	1.	0.01	0.01
-60.	650.	9500.	9.10	4740.	9.11	4740.	0.01	-0.	0.10	-0.00
-60.	650.	15000.	13.73	6993.	13.78	6991.	0.06	-2.	0.41	-0.02

WEAPON COEFFICIENTS FOR IDNO 13

CFORM1 = 1.0000000   DKG1 = 0.0   DM1 = 0.0   VMUZ = 0.   DS = 0.0
CFORM2 = 0.0   DKG2 = 0.0   DM2 = 0.0   FN = 0.   SL = 0.0

ITYPE = -1   IREF = 1   VE = 0.0
IBOTH = 1   DMAX = 5.00   DTI = 3.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
10.	300.	1000.	11.08	5471.	11.08	5471.	0.00	0.	0.00	0.00
10.	300.	3000.	16.70	8210.	16.71	8209.	0.01	-1.	0.04	-0.01
10.	350.	1000.	11.70	6722.	11.70	6722.	0.00	0.	0.01	0.00
10.	350.	3000.	17.26	9869.	17.26	9869.	0.00	0.	0.00	0.00
10.	400.	500.	10.28	6757.	10.29	6756.	0.00	-1.	0.04	-0.02
10.	400.	3000.	17.83	11616.	17.83	11616.	0.00	-0.	0.01	-0.00
10.	450.	500.	10.99	8106.	11.00	8102.	0.01	-4.	0.06	-0.05
10.	450.	3000.	18.41	13452.	18.42	13452.	0.00	0.	0.02	0.00
10.	500.	500.	11.72	9570.	11.72	9571.	0.00	1.	0.01	0.01
10.	500.	3000.	19.00	15378.	19.01	15378.	0.01	-0.	0.03	-0.00
10.	550.	500.	12.46	11160.	12.46	11160.	0.00	-0.	0.02	-0.00
10.	550.	3000.	19.60	17394.	19.61	17393.	0.01	-1.	0.05	-0.01
0.	300.	2000.	11.18	5605.	11.18	5605.	0.00	0.	0.00	0.00
0.	300.	15000.	30.84	15233.	30.85	15232.	0.01	-0.	0.02	-0.00
0.	350.	2000.	11.19	6532.	11.19	6532.	0.00	-0.	0.00	-0.00
0.	350.	15000.	30.88	17738.	30.89	17737.	0.01	-1.	0.03	-0.00
0.	400.	1500.	9.69	6464.	9.69	6464.	0.00	-0.	0.03	-0.01
0.	400.	15000.	30.93	20230.	30.94	20228.	0.01	-1.	0.04	-0.01
0.	450.	1500.	9.69	7265.	9.69	7264.	0.00	-0.	0.04	-0.01
0.	450.	15000.	31.01	22703.	31.02	22701.	0.02	-2.	0.05	-0.01
0.	500.	1500.	9.69	8063.	9.70	8063.	0.00	-1.	0.04	-0.01
0.	500.	15000.	31.13	25137.	31.15	25135.	0.02	-2.	0.07	-0.01
0.	550.	1500.	9.70	8861.	9.70	8860.	0.00	-1.	0.04	-0.01
0.	550.	15000.	31.32	27441.	31.35	27438.	0.03	-3.	0.09	-0.01
-10.	300.	1500.	7.32	3628.	7.32	3627.	0.00	-0.	0.06	-0.01
-10.	300.	4000.	13.34	6572.	13.34	6572.	0.01	-0.	0.04	-0.00
-10.	350.	1500.	7.00	4045.	7.01	4044.	0.00	-0.	0.06	-0.00
-10.	350.	5000.	14.83	8495.	14.83	8495.	0.00	0.	0.01	0.00
-10.	400.	1500.	6.70	4420.	6.70	4420.	0.00	-0.	0.05	-0.00
-10.	400.	6500.	16.93	11043.	16.94	11041.	0.01	-1.	0.07	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1500.	6.42	4759.	6.42	4759.	0.00	0.	0.05	0.00
-10.	450.	8000.	18.78	13719.	18.78	13719.	0.01	0.	0.03	0.00
-10.	500.	1500.	6.15	5064.	6.15	5065.	0.00	0.	0.04	0.00
-10.	500.	10000.	21.10	17014.	21.11	17014.	0.00	0.	0.02	0.00
-10.	550.	1500.	5.90	5340.	5.90	5340.	0.00	0.	0.03	0.01
-10.	550.	12000.	23.32	20347.	23.33	20347.	0.00	1.	0.00	0.00
-20.	300.	2000.	7.02	3321.	7.02	3320.	0.00	-0.	0.06	-0.00
-20.	300.	6000.	14.77	6932.	14.77	6932.	0.00	0.	0.01	0.00
-20.	350.	2000.	6.54	3607.	6.54	3607.	0.00	0.	0.05	0.00
-20.	350.	8000.	17.05	9296.	17.05	9296.	0.00	-0.	0.00	-0.00
-20.	400.	2000.	6.11	3848.	6.11	3848.	0.00	0.	0.03	0.01
-20.	400.	10000.	18.98	11789.	18.99	11788.	0.01	-1.	0.04	-0.00
-20.	450.	2000.	5.72	4051.	5.72	4051.	0.00	0.	0.02	0.01
-20.	450.	12500.	21.27	14771.	21.28	14771.	0.01	0.	0.03	0.00
-20.	500.	2500.	6.42	5048.	6.43	5049.	0.00	0.	0.06	0.01
-20.	500.	15000.	23.43	17834.	23.43	17835.	0.00	1.	0.00	0.00
-20.	550.	2500.	6.07	5244.	6.07	5244.	0.00	0.	0.04	0.00
-20.	550.	15000.	22.94	18977.	22.99	18973.	0.05	-3.	0.21	-0.02
-30.	300.	2500.	6.90	3007.	6.90	3007.	0.00	0.	0.06	0.00
-30.	300.	9000.	17.21	7427.	17.22	7428.	0.00	0.	0.00	0.01
-30.	350.	2500.	6.33	3216.	6.33	3216.	0.00	0.	0.04	0.01
-30.	350.	12000.	19.85	9958.	19.86	9957.	0.01	-0.	0.07	-0.00
-30.	400.	2500.	5.83	3385.	5.83	3385.	0.00	0.	0.02	0.01
-30.	400.	15000.	22.13	12612.	22.15	12612.	0.02	-0.	0.08	-0.00
-30.	450.	3000.	6.28	4099.	6.28	4099.	0.00	0.	0.05	0.01
-30.	450.	15000.	21.34	13617.	21.35	13618.	0.01	1.	0.04	0.00
-30.	500.	3000.	5.85	4242.	5.86	4243.	0.00	0.	0.03	0.01
-30.	500.	15000.	20.64	14516.	20.65	14516.	0.00	0.	0.01	0.00
-30.	550.	3000.	5.47	4362.	5.48	4362.	0.00	0.	0.02	0.01
-30.	550.	15000.	19.99	15296.	20.04	15293.	0.05	-3.	0.25	-0.02
-40.	300.	2500.	5.96	2299.	5.96	2299.	0.00	0.	0.03	0.01
-40.	300.	14500.	21.82	8295.	21.82	8296.	0.01	0.	0.04	0.01
-40.	350.	3000.	6.27	2821.	6.28	2822.	0.00	0.	0.04	0.01
-40.	350.	15000.	21.22	9393.	21.23	9394.	0.01	1.	0.03	0.01
-40.	400.	3000.	5.73	2945.	5.73	2946.	0.00	0.	0.02	0.01
-40.	400.	15000.	20.22	10200.	20.22	10201.	0.00	1.	0.01	0.01
-40.	450.	3500.	6.02	3477.	6.02	3477.	0.00	0.	0.04	0.01
-40.	450.	15000.	19.28	10912.	19.31	10912.	0.02	-0.	0.12	-0.00
-40.	500.	3500.	5.58	3575.	5.58	3576.	0.00	1.	0.02	0.02
-40.	500.	15000.	18.49	11531.	18.50	11531.	0.01	1.	0.07	0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	5.84	4114.	5.84	4114.	0.00	0.	0.04	0.01
-40.	550.	15000.	17.79	12056.	17.80	12057.	0.00	1.	0.02	0.01
-45.	300.	3000.	6.51	2318.	6.52	2319.	0.00	0.	0.04	0.01
-45.	300.	15000.	21.63	7591.	21.64	7591.	0.01	1.	0.03	0.01
-45.	350.	3000.	5.88	2443.	5.89	2444.	0.00	1.	0.03	0.02
-45.	350.	15000.	20.48	8369.	20.48	8371.	0.00	2.	0.01	0.02
-45.	400.	3500.	6.12	2899.	6.12	2899.	0.00	1.	0.04	0.02
-45.	400.	15000.	19.40	9052.	19.42	9052.	0.02	0.	0.11	0.00
-45.	450.	3500.	5.61	2993.	5.62	2994.	0.00	1.	0.02	0.02
-45.	450.	15000.	18.46	9645.	18.47	9646.	0.01	1.	0.06	0.01
-45.	500.	4000.	5.83	3453.	5.84	3453.	0.00	1.	0.03	0.02
-45.	500.	15000.	17.63	10156.	17.63	10157.	0.00	1.	0.01	0.01
-45.	550.	4500.	6.03	3916.	6.03	3917.	0.00	1.	0.06	0.02
-45.	550.	15000.	16.86	10589.	16.91	10588.	0.05	-1.	0.28	-0.01
-60.	300.	4000.	7.24	1823.	7.25	1823.	0.01	0.	0.07	0.00
-60.	300.	15000.	20.05	4981.	20.05	4982.	0.00	1.	0.00	0.01
-60.	350.	4000.	6.52	1915.	6.53	1915.	0.00	0.	0.05	0.01
-60.	350.	15000.	18.77	5437.	18.78	5437.	0.01	0.	0.05	0.00
-60.	400.	5000.	7.19	2408.	7.19	2408.	0.01	0.	0.09	0.00
-60.	400.	15000.	17.64	5823.	17.64	5824.	0.00	0.	0.01	0.01
-60.	450.	5500.	7.17	2699.	7.18	2699.	0.01	0.	0.10	0.00
-60.	450.	15000.	16.60	6152.	16.63	6151.	0.03	-1.	0.18	-0.01
-60.	500.	6500.	7.67	3207.	7.69	3207.	0.01	-0.	0.17	-0.00
-60.	500.	15000.	15.72	6427.	15.74	6427.	0.02	0.	0.11	0.01
-60.	550.	7000.	7.64	3502.	7.66	3502.	0.02	-0.	0.26	-0.01
-60.	550.	15000.	14.96	6655.	14.97	6656.	0.01	1.	0.04	0.01

WEAPON COEFFICIENTS FOR IDNO 14

CFORM1 = 3.1199999   DKG1 = -.0012230   DM1 = 0.0   VMUZ = 0.   DS = 0.0
CFORM2 = 0.0   DKG2 = 0.0   DM2 = 0.0   FN = 0.   SL = 0.0

ITYPE = -1   IREF = 1   VE = 0.0
IBOTH = 1   DMAX = 5.00   DTI = 3.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.93	4369.	8.93	4369.	0.00	0.	0.02	0.00
10.	300.	3000.	16.76	8083.	16.77	8082.	0.02	-1.	0.09	-0.02
10.	350.	500.	9.59	5448.	9.59	5448.	0.00	-1.	0.05	-0.01
10.	350.	3000.	17.33	9683.	17.33	9683.	0.00	0.	0.00	0.00
10.	400.	500.	10.26	6636.	10.27	6633.	0.01	-3.	0.09	-0.05
10.	400.	3000.	17.90	11355.	17.91	11355.	0.00	-0.	0.02	-0.00
10.	450.	500.	10.95	7932.	10.97	7923.	0.02	-8.	0.15	-0.10
10.	450.	3000.	18.48	13099.	18.49	13098.	0.01	-0.	0.04	-0.00
10.	500.	500.	11.68	9319.	11.68	9319.	0.00	0.	0.01	0.00
10.	500.	3000.	19.07	14912.	19.08	14911.	0.01	-1.	0.07	-0.01
10.	550.	500.	12.40	10817.	12.40	10817.	0.01	-1.	0.05	-0.01
10.	550.	3000.	19.66	16792.	19.68	16788.	0.02	-4.	0.11	-0.02
0.	300.	1500.	9.71	4817.	9.71	4816.	0.01	-1.	0.06	-0.01
0.	300.	15000.	31.24	14934.	31.26	14933.	0.02	-1.	0.07	-0.01
0.	350.	1500.	9.72	5606.	9.72	5605.	0.01	-1.	0.07	-0.01
0.	350.	15000.	31.30	17349.	31.33	17347.	0.03	-2.	0.08	-0.01
0.	400.	1000.	7.91	5237.	7.93	5231.	0.02	-6.	0.20	-0.11
0.	400.	15000.	31.39	19738.	31.42	19734.	0.03	-3.	0.11	-0.02
0.	450.	1000.	7.91	5880.	7.93	5872.	0.02	-8.	0.22	-0.13
0.	450.	15000.	31.51	22093.	31.55	22089.	0.04	-3.	0.14	-0.02
0.	500.	1000.	7.92	6520.	7.94	6510.	0.02	-9.	0.24	-0.14
0.	500.	15000.	31.70	24392.	31.76	24388.	0.06	-4.	0.18	-0.02
0.	550.	1000.	7.92	7157.	7.94	7146.	0.02	-11.	0.27	-0.16
0.	550.	15000.	31.99	26474.	32.06	26466.	0.07	-8.	0.23	-0.03
-10.	300.	1000.	5.64	2777.	5.64	2778.	0.00	0.	0.02	0.01
-10.	300.	4000.	13.43	6512.	13.44	6511.	0.01	-1.	0.10	-0.02
-10.	350.	1000.	5.35	3068.	5.35	3068.	0.00	0.	0.02	0.01
-10.	350.	5000.	14.97	8398.	14.97	8398.	0.00	0.	0.02	0.00
-10.	400.	1000.	5.07	3324.	5.07	3324.	0.00	0.	0.01	0.01
-10.	400.	6500.	17.14	10885.	17.14	10885.	0.00	0.	0.00	0.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-10.	450.	1500.	6.45	4731.	6.46	4731.	0.01	-0.	0.10	-0.01
-10.	450.	8000.	19.04	13490.	19.05	13489.	0.02	-1.	0.08	-0.01
-10.	500.	1500.	6.19	5033.	6.19	5033.	0.01	-0.	0.08	-0.00
-10.	500.	9500.	20.81	16197.	20.81	16197.	0.00	0.	0.02	0.00
-10.	550.	1500.	5.94	5306.	5.94	5306.	0.00	0.	0.07	0.00
-10.	550.	11500.	23.25	19364.	23.25	19363.	0.00	-0.	0.00	-0.00
-20.	300.	1500.	5.71	2684.	5.71	2684.	0.00	0.	0.03	0.00
-20.	300.	6000.	14.91	6870.	14.92	6870.	0.00	0.	0.02	0.00
-20.	350.	1500.	5.28	2891.	5.28	2892.	0.00	0.	0.01	0.01
-20.	350.	7500.	16.54	8830.	16.56	8828.	0.02	-1.	0.12	-0.01
-20.	400.	1500.	4.89	3062.	4.89	3062.	0.00	0.	0.01	0.00
-20.	400.	10000.	19.26	11631.	19.28	11630.	0.02	-1.	0.10	-0.01
-20.	450.	2000.	5.76	4035.	5.76	4035.	0.00	0.	0.04	0.01
-20.	450.	12500.	21.67	14539.	21.68	14538.	0.02	-1.	0.08	-0.01
-20.	500.	2000.	5.41	4206.	5.41	4206.	0.00	0.	0.02	0.01
-20.	500.	15000.	24.05	17488.	24.06	17487.	0.01	-0.	0.05	-0.00
-20.	550.	2000.	5.09	4351.	5.09	4351.	0.00	0.	0.01	0.01
-20.	550.	15000.	23.77	18497.	23.77	18497.	0.01	0.	0.03	0.00
-30.	300.	2000.	5.82	2522.	5.82	2522.	0.00	0.	0.04	0.01
-30.	300.	9000.	17.43	7358.	17.43	7358.	0.00	0.	0.01	0.00
-30.	350.	2000.	5.31	2680.	5.31	2680.	0.00	0.	0.01	0.01
-30.	350.	12000.	20.17	9841.	20.17	9841.	-0.00	0.	-0.00	0.00
-30.	400.	2000.	4.86	2804.	4.86	2805.	0.00	0.	0.01	0.01
-30.	400.	15000.	22.54	12442.	22.58	12440.	0.04	-2.	0.19	-0.01
-30.	450.	2500.	5.43	3511.	5.43	3511.	0.00	0.	0.02	0.01
-30.	450.	15000.	21.82	13425.	21.85	13424.	0.03	-1.	0.13	-0.00
-30.	500.	2500.	5.04	3621.	5.04	3622.	0.00	1.	0.02	0.02
-30.	500.	15000.	21.23	14287.	21.24	14287.	0.02	0.	0.08	0.00
-30.	550.	2500.	4.70	3712.	4.70	3713.	0.00	0.	0.02	0.01
-30.	550.	15000.	20.79	14978.	20.80	14978.	0.01	0.	0.04	0.00
-40.	300.	2500.	5.99	2294.	5.99	2294.	0.00	0.	0.05	0.01
-40.	300.	14500.	22.15	8203.	22.17	8203.	0.02	0.	0.09	0.00
-40.	350.	2500.	5.41	2418.	5.42	2418.	0.00	0.	0.02	0.01
-40.	350.	15000.	21.59	9287.	21.61	9287.	0.02	0.	0.07	0.00
-40.	400.	3000.	5.77	2938.	5.77	2939.	0.00	0.	0.04	0.02
-40.	400.	15000.	20.62	10084.	20.63	10085.	0.00	1.	0.02	0.01
-40.	450.	3000.	5.30	3036.	5.31	3037.	0.00	0.	0.02	0.01
-40.	450.	15000.	19.71	10787.	19.77	10785.	0.06	-2.	0.30	-0.02
-40.	500.	3500.	5.62	3567.	5.62	3567.	0.00	0.	0.04	0.01
-40.	500.	15000.	19.02	11382.	19.06	11381.	0.04	-1.	0.22	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	5.90	4103.	5.91	4103.	0.01	1.	0.09	0.01
-40.	550.	15000.	18.50	11851.	18.52	11851.	0.02	0.	0.13	0.00
-45.	300.	2500.	5.63	1991.	5.63	1992.	0.00	0.	0.02	0.02
-45.	300.	15000.	21.97	7510.	21.99	7510.	0.02	0.	0.08	0.01
-45.	350.	3000.	5.92	2438.	5.92	2438.	0.00	1.	0.05	0.02
-45.	350.	15000.	20.84	8282.	20.85	8283.	0.01	1.	0.03	0.02
-45.	400.	3000.	5.39	2534.	5.39	2534.	0.00	0.	0.02	0.02
-45.	400.	15000.	19.77	8959.	19.82	8958.	0.05	-1.	0.25	-0.01
-45.	450.	3500.	5.66	2986.	5.66	2987.	0.00	1.	0.04	0.02
-45.	450.	15000.	18.89	9543.	18.92	9543.	0.03	1.	0.17	0.01
-45.	500.	4000.	5.89	3445.	5.89	3445.	0.00	1.	0.06	0.02
-45.	500.	15000.	18.16	10035.	18.18	10036.	0.01	1.	0.08	0.01
-45.	550.	4500.	6.09	3907.	6.10	3907.	0.01	0.	0.11	0.01
-45.	550.	15000.	17.60	10422.	17.61	10423.	0.00	1.	0.03	0.01
-60.	300.	4000.	7.29	1819.	7.30	1819.	0.01	-0.	0.17	-0.01
-60.	300.	15000.	20.38	4935.	20.38	4936.	0.00	1.	0.01	0.01
-60.	350.	4000.	6.57	1911.	6.57	1911.	0.01	0.	0.11	0.00
-60.	350.	15000.	19.10	5390.	19.12	5389.	0.03	-0.	0.13	-0.01
-60.	400.	5000.	7.25	2402.	7.26	2402.	0.02	-0.	0.21	-0.01
-60.	400.	15000.	17.99	5774.	18.00	5774.	0.01	0.	0.05	0.01
-60.	450.	5500.	7.23	2693.	7.25	2692.	0.02	-0.	0.24	-0.01
-60.	450.	15000.	16.96	6101.	17.03	6099.	0.07	-2.	0.42	-0.03
-60.	500.	6500.	7.75	3199.	7.78	3198.	0.03	-1.	0.38	-0.03
-60.	500.	15000.	16.18	6366.	16.23	6366.	0.05	-1.	0.31	-0.01
-60.	550.	7000.	7.74	3492.	7.79	3490.	0.05	-2.	0.59	-0.05
-60.	550.	15000.	15.58	6573.	15.61	6573.	0.03	0.	0.19	0.00

WEAPON COEFFICIENTS FOR IDNO 15

CFORM1 = 3.4971991	DKG1 = 0.0	DM1 = 0.0	VMUZ =	0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN =	0.	SL = 0.0
ITYPE = -1	IREF = 1	VE = 0.0			
IBOTH = 1	DMAX = 3.00	DTI = 2.00			

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.93	4337.	8.94	4335.	0.01	-2.	0.09	-0.04
10.	300.	3000.	16.83	7981.	16.84	7981.	0.01	-1.	0.07	-0.01
10.	350.	500.	9.60	5392.	9.60	5392.	0.00	-0.	0.02	-0.00
10.	350.	3000.	17.41	9536.	17.41	9535.	0.00	-0.	0.00	-0.00
10.	400.	500.	10.27	6548.	10.28	6547.	0.01	-1.	0.05	-0.01
10.	400.	3000.	17.98	11150.	17.98	11150.	0.00	-0.	0.02	-0.00
10.	450.	500.	10.96	7801.	10.97	7798.	0.01	-3.	0.12	-0.04
10.	450.	3000.	18.56	12822.	18.57	12822.	0.01	-1.	0.06	-0.00
10.	500.	500.	11.67	9140.	11.67	9140.	0.00	0.	0.02	0.00
10.	500.	3000.	19.16	14547.	19.16	14548.	0.00	0.	0.00	0.00
10.	550.	500.	12.38	10572.	12.39	10570.	0.01	-1.	0.07	-0.01
10.	550.	3000.	19.75	16324.	19.75	16324.	0.00	0.	0.01	0.00
0.	300.	1000.	7.94	3922.	7.95	3922.	0.00	-0.	0.03	-0.01
0.	300.	15000.	31.61	14686.	31.61	14684.	0.00	-1.	0.00	-0.01
0.	350.	1000.	7.95	4563.	7.96	4562.	0.00	-0.	0.04	-0.01
0.	350.	15000.	31.70	17026.	31.70	17024.	0.00	-2.	0.01	-0.01
0.	400.	1000.	7.96	5200.	7.97	5199.	0.00	-0.	0.04	-0.01
0.	400.	15000.	31.80	19333.	31.80	19332.	0.00	-1.	0.01	-0.01
0.	450.	1000.	7.97	5833.	7.98	5832.	0.00	-0.	0.05	-0.01
0.	450.	15000.	31.92	21604.	31.93	21603.	0.01	-1.	0.02	-0.01
0.	500.	1000.	7.98	6462.	7.99	6462.	0.00	-0.	0.06	-0.01
0.	500.	15000.	32.09	23828.	32.10	23827.	0.01	-0.	0.03	-0.00
0.	550.	1000.	7.99	7088.	7.99	7088.	0.01	-0.	0.06	-0.01
0.	550.	15000.	32.34	25891.	32.36	25889.	0.02	-2.	0.05	-0.01
-10.	300.	1000.	5.66	2773.	5.67	2773.	0.00	0.	0.03	0.01
-10.	300.	3500.	12.49	5986.	12.50	5986.	0.01	-0.	0.07	-0.00
-10.	350.	1000.	5.37	3063.	5.37	3064.	0.00	0.	0.02	0.01
-10.	350.	5000.	15.10	8320.	15.10	8320.	0.00	0.	0.00	0.00
-10.	400.	1000.	5.10	3320.	5.10	3320.	0.00	0.	0.01	0.01
-10.	400.	6000.	16.50	10278.	16.51	10278.	0.01	-0.	0.07	-0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	4.84	3548.	4.85	3546.	0.01	-2.	0.29	-0.06
-10.	450.	7500.	18.54	12821.	18.55	12821.	0.01	-0.	0.07	-0.00
-10.	500.	1000.	4.61	3747.	4.62	3746.	0.01	-2.	0.26	-0.04
-10.	500.	9000.	20.39	15458.	20.41	15458.	0.01	-0.	0.06	-0.00
-10.	550.	1000.	4.39	3923.	4.40	3922.	0.01	-1.	0.23	-0.03
-10.	550.	11000.	22.85	18597.	22.88	18595.	0.03	-2.	0.12	-0.01
-20.	300.	1500.	5.74	2680.	5.74	2680.	0.00	0.	0.04	0.01
-20.	300.	5500.	14.21	6461.	14.22	6461.	0.01	-0.	0.04	-0.00
-20.	350.	1500.	5.31	2888.	5.31	2888.	0.00	0.	0.02	0.01
-20.	350.	7500.	16.72	8750.	16.74	8749.	0.01	-1.	0.08	-0.01
-20.	400.	1500.	4.91	3061.	4.93	3060.	0.01	-1.	0.29	-0.05
-20.	400.	9500.	18.88	11141.	18.89	11140.	0.02	-1.	0.09	-0.01
-20.	450.	1500.	4.57	3202.	4.59	3201.	0.01	-1.	0.25	-0.02
-20.	450.	11500.	20.79	13629.	20.81	13628.	0.02	-1.	0.10	-0.01
-20.	500.	1500.	4.27	3319.	4.28	3319.	0.01	-0.	0.20	-0.01
-20.	500.	14000.	23.25	16546.	23.25	16546.	0.00	0.	0.00	0.00
-20.	550.	2000.	5.13	4347.	5.13	4347.	0.00	1.	0.01	0.01
-20.	550.	15000.	24.07	18265.	24.09	18264.	0.01	-1.	0.05	-0.00
-30.	300.	1500.	4.63	2003.	4.64	2003.	0.01	-0.	0.18	-0.02
-30.	300.	8500.	16.93	7036.	16.95	7036.	0.02	-0.	0.10	-0.01
-30.	350.	2000.	5.34	2677.	5.34	2678.	0.00	0.	0.02	0.01
-30.	350.	11500.	19.87	9481.	19.87	9481.	0.00	1.	0.02	0.01
-30.	400.	2000.	4.88	2804.	4.90	2803.	0.01	-1.	0.30	-0.03
-30.	400.	14500.	22.38	12035.	22.39	12034.	0.01	-1.	0.07	-0.00
-30.	450.	2000.	4.50	2903.	4.51	2903.	0.01	-0.	0.25	-0.01
-30.	450.	15000.	22.16	13277.	22.17	13276.	0.01	-0.	0.06	-0.00
-30.	500.	2500.	5.09	3619.	5.09	3619.	0.00	0.	0.01	0.01
-30.	500.	15000.	21.55	14140.	21.55	14140.	0.00	-0.	0.02	-0.00
-30.	550.	2500.	4.73	3712.	4.75	3711.	0.02	-1.	0.37	-0.02
-30.	550.	15000.	21.10	14833.	21.10	14833.	0.00	-0.	0.00	-0.00
-40.	300.	2500.	6.02	2291.	6.03	2291.	0.00	0.	0.07	0.00
-40.	300.	13500.	21.41	7759.	21.41	7759.	0.00	0.	0.00	0.00
-40.	350.	2500.	5.45	2416.	5.45	2416.	0.00	0.	0.02	0.01
-40.	350.	15000.	21.92	9197.	21.92	9197.	0.01	0.	0.03	0.00
-40.	400.	3000.	5.82	2935.	5.82	2935.	0.00	0.	0.06	0.01
-40.	400.	15000.	20.91	9991.	20.94	9990.	0.03	-0.	0.14	-0.00
-40.	450.	3000.	5.35	3034.	5.35	3034.	0.00	1.	0.02	0.02
-40.	450.	15000.	20.06	10689.	20.07	10689.	0.01	0.	0.06	0.00
-40.	500.	3500.	5.67	3563.	5.68	3563.	0.00	0.	0.05	0.01
-40.	500.	15000.	19.34	11288.	19.35	11288.	0.00	1.	0.01	0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	5.96	4098.	5.97	4098.	0.01	0.	0.11	0.00
-40.	550.	15000.	18.77	11761.	18.81	11760.	0.04	-1.	0.20	-0.00
-45.	300.	2500.	5.66	1989.	5.66	1990.	0.00	0.	0.03	0.02
-45.	300.	15000.	22.28	7440.	22.30	7441.	0.01	1.	0.05	0.01
-45.	350.	3000.	5.96	2435.	5.96	2435.	0.00	1.	0.08	0.02
-45.	350.	15000.	21.16	8207.	21.16	8208.	-0.00	1.	-0.00	0.01
-45.	400.	3000.	5.43	2532.	5.43	2532.	0.00	0.	0.02	0.02
-45.	400.	15000.	20.11	8880.	20.12	8881.	0.01	1.	0.06	0.01
-45.	450.	3500.	5.71	2983.	5.71	2984.	0.00	1.	0.06	0.02
-45.	450.	15000.	19.21	9465.	19.21	9466.	0.00	2.	0.01	0.02
-45.	500.	4000.	5.94	3441.	5.95	3441.	0.01	0.	0.09	0.01
-45.	500.	15000.	18.43	9962.	18.45	9963.	0.02	0.	0.13	0.00
-45.	550.	4500.	6.16	3901.	6.17	3902.	0.01	0.	0.17	0.01
-45.	550.	15000.	17.88	10350.	17.89	10351.	0.01	1.	0.05	0.01
-60.	300.	4000.	7.35	1815.	7.35	1816.	0.00	0.	0.01	0.01
-60.	300.	15000.	20.65	4897.	20.67	4897.	0.02	0.	0.08	0.00
-60.	350.	4000.	6.61	1908.	6.63	1908.	0.01	-0.	0.17	-0.01
-60.	350.	15000.	19.41	5349.	19.41	5349.	0.00	0.	0.00	0.00
-60.	400.	5000.	7.33	2398.	7.33	2398.	0.00	0.	0.01	0.01
-60.	400.	15000.	18.26	5734.	18.28	5734.	0.01	0.	0.08	0.00
-60.	450.	5500.	7.32	2688.	7.32	2688.	0.00	0.	0.01	0.01
-60.	450.	15000.	17.29	6060.	17.29	6061.	0.00	0.	0.01	0.00
-60.	500.	6500.	7.87	3192.	7.87	3192.	0.01	0.	0.06	0.01
-60.	500.	15000.	16.46	6330.	16.48	6330.	0.02	-0.	0.15	-0.01
-60.	550.	7000.	7.88	3483.	7.89	3483.	0.01	0.	0.10	0.01
-60.	550.	15000.	15.86	6537.	15.87	6537.	0.01	0.	0.06	0.01

WEAPON COEFFICIENTS FOR IDNO 16

CFORM1 =	1.6049995	DKG1 =	0.0	DM1 =	0.0	VMUZ = 0.	DS = 0.0
CFORM2 =	0.0	DKG2 =	0.0	DM2 =	0.0	FN = 0.	SL = 0.0
ITYPE =	-1	IREF =	1	VE =	0.0		
IBOTH =	1	DMAX =	5.00	DTI =	3.00		

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
10.	300.	500.	8.93	4396.	8.93	4397.	0.00	0.	0.02	0.00
10.	300.	3000.	16.73	8153.	16.74	8151.	0.01	-1.	0.06	-0.02
10.	350.	500.	9.59	5492.	9.60	5492.	0.00	-0.	0.04	-0.01
10.	350.	3000.	17.30	9784.	17.30	9784.	0.00	0.	0.00	0.00
10.	400.	500.	10.27	6702.	10.28	6700.	0.01	-2.	0.07	-0.03
10.	400.	3000.	17.87	11497.	17.87	11497.	0.00	-0.	0.01	-0.00
10.	450.	500.	10.97	8027.	10.98	8021.	0.01	-6.	0.10	-0.07
10.	450.	3000.	18.44	13290.	18.45	13290.	0.00	-0.	0.03	-0.00
10.	500.	500.	11.70	9455.	11.70	9455.	0.00	0.	0.01	0.01
10.	500.	3000.	19.03	15164.	19.04	15163.	0.01	-1.	0.05	-0.00
10.	550.	500.	12.43	11003.	12.44	11002.	0.00	-0.	0.04	-0.00
10.	550.	3000.	19.63	17117.	19.64	17114.	0.02	-2.	0.08	-0.01
10.	600.	500.	13.14	12569.	13.15	12566.	0.01	-3.	0.07	-0.03
10.	600.	3000.	20.24	18994.	20.24	18994.	0.00	0.	0.00	0.00
10.	650.	500.	13.78	13977.	13.80	13968.	0.02	-9.	0.13	-0.07
10.	650.	3000.	20.80	20577.	20.80	20577.	0.00	-0.	0.01	-0.00
0.	300.	1500.	9.69	4840.	9.70	4839.	0.00	-0.	0.04	-0.01
0.	300.	15000.	31.02	15098.	31.03	15096.	0.01	-1.	0.04	-0.01
0.	350.	1500.	9.70	5637.	9.70	5636.	0.00	-1.	0.04	-0.01
0.	350.	15000.	31.07	17561.	31.09	17559.	0.02	-2.	0.05	-0.01
0.	400.	1500.	9.70	6431.	9.71	6431.	0.01	-1.	0.05	-0.01
0.	400.	15000.	31.14	20004.	31.16	20003.	0.02	-1.	0.07	-0.00
0.	450.	1000.	7.90	5913.	7.92	5908.	0.01	-5.	0.15	-0.09
0.	450.	15000.	31.24	22424.	31.26	22421.	0.03	-2.	0.09	-0.01
0.	500.	1000.	7.91	6561.	7.92	6555.	0.01	-6.	0.17	-0.10
0.	500.	15000.	31.39	24797.	31.43	24793.	0.04	-3.	0.11	-0.01
0.	550.	1000.	7.91	7208.	7.92	7200.	0.01	-8.	0.19	-0.11
0.	550.	15000.	31.63	27005.	31.67	27000.	0.05	-5.	0.15	-0.02
0.	600.	1000.	7.92	7816.	7.93	7805.	0.02	-11.	0.24	-0.14
0.	600.	15000.	31.91	28824.	31.97	28818.	0.06	-6.	0.19	-0.02

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	650.	1000.	7.93	8349.	7.96	8332.	0.03	-17.	0.34	-0.20
0.	650.	15000.	32.27	30302.	32.26	30303.	-0.00	1.	-0.01	0.00
-10.	300.	1500.	7.33	3620.	7.34	3619.	0.01	-1.	0.10	-0.02
-10.	300.	4000.	13.38	6545.	13.39	6544.	0.01	-0.	0.07	-0.01
-10.	350.	1500.	7.01	4035.	7.02	4034.	0.01	-1.	0.09	-0.01
-10.	350.	5000.	14.89	8451.	14.90	8451.	0.00	0.	0.01	0.00
-10.	400.	1500.	6.71	4409.	6.72	4409.	0.01	-0.	0.08	-0.01
-10.	400.	6500.	17.03	10971.	17.03	10971.	0.00	0.	0.00	0.00
-10.	450.	1500.	6.43	4746.	6.44	4746.	0.00	-0.	0.07	-0.00
-10.	450.	8000.	18.89	13615.	18.90	13615.	0.01	-0.	0.05	-0.00
-10.	500.	1500.	6.17	5050.	6.17	5051.	0.00	0.	0.06	0.01
-10.	500.	10000.	21.27	16862.	21.27	16862.	0.01	0.	0.04	0.00
-10.	550.	1500.	5.92	5325.	5.92	5325.	0.00	0.	0.05	0.01
-10.	550.	12000.	23.57	20115.	23.57	20116.	0.00	1.	0.01	0.01
-10.	600.	1500.	5.70	5558.	5.70	5559.	0.00	0.	0.04	0.01
-10.	600.	14000.	25.84	23169.	25.90	23165.	0.06	-4.	0.22	-0.02
-10.	650.	1500.	5.51	5746.	5.52	5746.	0.00	1.	0.03	0.01
-10.	650.	15000.	27.05	25110.	27.06	25111.	0.01	1.	0.03	0.00
-20.	300.	1500.	5.70	2688.	5.70	2689.	0.00	0.	0.02	0.01
-20.	300.	6000.	14.84	6904.	14.84	6904.	0.00	0.	0.01	0.00
-20.	350.	1500.	5.27	2897.	5.27	2897.	0.00	0.	0.01	0.00
-20.	350.	8000.	17.14	9249.	17.14	9249.	0.00	0.	0.00	0.00
-20.	400.	2000.	6.13	3841.	6.13	3841.	0.00	0.	0.05	0.01
-20.	400.	10000.	19.11	11718.	19.12	11717.	0.01	-1.	0.06	-0.01
-20.	450.	2000.	5.74	4044.	5.74	4044.	0.00	0.	0.03	0.00
-20.	450.	12500.	21.45	14666.	21.46	14666.	0.01	-0.	0.05	-0.00
-20.	500.	2000.	5.38	4215.	5.39	4215.	0.00	1.	0.02	0.01
-20.	500.	15000.	23.70	17680.	23.71	17680.	0.00	0.	0.02	0.00
-20.	550.	2000.	5.07	4360.	5.07	4361.	0.00	1.	0.01	0.01
-20.	550.	15000.	23.33	18770.	23.33	18770.	0.00	0.	0.00	0.00
-20.	600.	2000.	4.79	4478.	4.79	4478.	0.00	0.	0.01	0.00
-20.	600.	15000.	22.99	19660.	23.06	19655.	0.07	-5.	0.30	-0.03
-20.	650.	2000.	4.57	4566.	4.57	4567.	0.00	0.	0.02	0.01
-20.	650.	15000.	22.77	20408.	22.83	20404.	0.06	-4.	0.28	-0.02
-30.	300.	2000.	5.81	2526.	5.81	2526.	0.00	0.	0.03	0.01
-30.	300.	9000.	17.31	7396.	17.31	7396.	0.00	0.	0.00	0.01
-30.	350.	2000.	5.29	2684.	5.29	2684.	0.00	0.	0.02	0.01
-30.	350.	12000.	19.98	9906.	20.00	9905.	0.02	-1.	0.11	-0.01
-30.	400.	2500.	5.84	3380.	5.85	3380.	0.00	1.	0.04	0.02
-30.	400.	15000.	22.32	12535.	22.34	12534.	0.03	-1.	0.12	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.41	3516.	5.41	3516.	0.00	0.	0.02	0.01
-30.	450.	15000.	21.56	13532.	21.57	13531.	0.02	-0.	0.07	-0.00
-30.	500.	2500.	5.02	3627.	5.02	3627.	0.00	0.	0.01	0.01
-30.	500.	15000.	20.90	14416.	20.91	14416.	0.01	0.	0.03	0.00
-30.	550.	3000.	5.50	4356.	5.50	4356.	0.00	0.	0.03	0.01
-30.	550.	15000.	20.37	15161.	20.37	15162.	0.00	1.	0.01	0.01
-30.	600.	3000.	5.18	4450.	5.18	4451.	0.00	1.	0.01	0.02
-30.	600.	15000.	19.87	15770.	19.94	15766.	0.07	-4.	0.34	-0.03
-30.	650.	3500.	5.66	5176.	5.66	5177.	0.00	1.	0.07	0.01
-30.	650.	15000.	19.50	16289.	19.55	16287.	0.06	-2.	0.29	-0.01
-40.	300.	2500.	5.97	2297.	5.97	2297.	0.00	0.	0.04	0.01
-40.	300.	15000.	22.47	8438.	22.48	8438.	0.02	-0.	0.09	-0.00
-40.	350.	2500.	5.40	2421.	5.40	2421.	0.00	0.	0.01	0.01
-40.	350.	15000.	21.39	9345.	21.40	9346.	0.01	1.	0.04	0.01
-40.	400.	3000.	5.75	2942.	5.75	2943.	0.00	1.	0.03	0.02
-40.	400.	15000.	20.40	10148.	20.40	10149.	0.00	1.	0.01	0.01
-40.	450.	3000.	5.28	3040.	5.28	3041.	0.00	0.	0.01	0.01
-40.	450.	15000.	19.47	10856.	19.51	10855.	0.04	-0.	0.19	-0.00
-40.	500.	3500.	5.60	3571.	5.60	3572.	0.00	1.	0.03	0.01
-40.	500.	15000.	18.71	11466.	18.74	11466.	0.02	0.	0.13	0.00
-40.	550.	4000.	5.87	4109.	5.87	4110.	0.00	1.	0.06	0.02
-40.	550.	15000.	18.10	11972.	18.11	11972.	0.01	1.	0.06	0.01
-40.	600.	4500.	6.14	4646.	6.14	4646.	0.01	0.	0.12	0.01
-40.	600.	15000.	17.58	12379.	17.59	12380.	0.00	2.	0.02	0.01
-40.	650.	5000.	6.42	5177.	6.44	5177.	0.02	0.	0.25	0.00
-40.	650.	15000.	17.09	12735.	17.09	12736.	0.00	1.	0.01	0.01
-45.	300.	2500.	5.61	1993.	5.61	1994.	0.00	0.	0.02	0.02
-45.	300.	15000.	21.78	7554.	21.79	7555.	0.01	1.	0.05	0.01
-45.	350.	3000.	5.90	2441.	5.90	2441.	0.00	0.	0.03	0.02
-45.	350.	15000.	20.64	8330.	20.64	8331.	0.00	1.	0.01	0.02
-45.	400.	3000.	5.37	2536.	5.37	2537.	0.00	1.	0.02	0.03
-45.	400.	15000.	19.57	9010.	19.60	9010.	0.03	0.	0.16	0.00
-45.	450.	3500.	5.63	2990.	5.64	2991.	0.00	0.	0.03	0.02
-45.	450.	15000.	18.65	9599.	18.67	9600.	0.02	1.	0.11	0.01
-45.	500.	4000.	5.86	3449.	5.86	3450.	0.00	1.	0.04	0.02
-45.	500.	15000.	17.86	10103.	17.86	10105.	0.01	2.	0.04	0.02
-45.	550.	4500.	6.06	3912.	6.06	3913.	0.00	1.	0.08	0.02
-45.	550.	15000.	17.20	10519.	17.20	10521.	0.00	2.	0.01	0.02
-45.	600.	5500.	6.83	4758.	6.84	4758.	0.02	-0.	0.29	-0.00
-45.	600.	15000.	16.59	10856.	16.65	10855.	0.06	-1.	0.37	-0.01

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-45.	650.	6000.	7.03	5216.	7.07	5215.	0.03	-1.	0.47	-0.01
-45.	650.	15000.	16.09	11148.	16.13	11147.	0.04	-0.	0.27	-0.00
-60.	300.	4000.	7.26	1821.	7.27	1821.	0.01	0.	0.12	0.00
-60.	300.	15000.	20.20	4961.	20.20	4961.	0.00	1.	0.00	0.01
-60.	350.	4000.	6.54	1913.	6.55	1913.	0.00	0.	0.08	0.01
-60.	350.	15000.	18.92	5415.	18.94	5415.	0.02	0.	0.09	0.00
-60.	400.	5000.	7.21	2405.	7.22	2405.	0.01	-0.	0.14	-0.01
-60.	400.	15000.	17.80	5801.	17.80	5802.	0.00	0.	0.02	0.01
-60.	450.	5500.	7.20	2696.	7.21	2696.	0.01	-0.	0.16	-0.00
-60.	450.	15000.	16.75	6129.	16.80	6128.	0.05	-1.	0.28	-0.01
-60.	500.	6500.	7.71	3203.	7.73	3203.	0.02	-0.	0.27	-0.01
-60.	500.	15000.	15.92	6401.	15.95	6401.	0.03	0.	0.19	0.0
-60.	550.	7000.	7.68	3498.	7.71	3497.	0.03	-1.	0.39	-0.03
-60.	550.	15000.	15.22	6622.	15.24	6622.	0.01	0.	0.09	0.01
-60.	600.	8500.	8.71	4222.	8.71	4223.	0.01	1.	0.06	0.02
-60.	600.	15000.	14.63	6799.	14.64	6799.	0.00	1.	0.02	0.01
-60.	650.	9500.	9.21	4727.	9.23	4727.	0.01	0.	0.15	0.01
-60.	650.	15000.	13.97	6957.	14.06	6954.	0.09	-3.	0.62	-0.04

WEAPON COEFFICIENTS FOR IDNO 17

CFORM1 = 0.0 DKG1 = 0.0073290 DM1 = 0.0 VMUZ = 0. DS = 0.0
CFORM2 = 0.0 DKG2 = 0.0 DM2 = 0.0 FN = 0. SL = 0.0

ITYPE = -1 IREF = 4 VE = 0.0
IBOTH = 1 DMAX = 3.00 DTI = 1.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.94	4297.	8.95	4297.	0.00	-0.	0.04	-0.00
10.	300.	3000.	16.90	7880.	16.90	7880.	0.00	-0.	0.02	-0.00
10.	350.	500.	9.60	5332.	9.60	5332.	0.00	-0.	0.02	-0.00
10.	350.	3000.	17.47	9390.	17.47	9390.	0.00	0.	0.01	0.00
10.	400.	500.	10.27	6457.	10.27	6457.	0.00	0.	0.01	0.00
10.	400.	3000.	18.05	10949.	18.05	10949.	-0.00	-0.	-0.00	-0.00
10.	450.	500.	10.95	7668.	10.96	7667.	0.00	-0.	0.04	-0.01
10.	450.	3000.	18.63	12553.	18.63	12553.	0.00	0.	0.01	0.00
10.	500.	500.	11.65	8958.	11.66	8959.	0.00	1.	0.02	0.01
10.	500.	3000.	19.22	14199.	19.22	14199.	-0.00	1.	-0.00	0.00
10.	550.	500.	12.36	10324.	12.36	10325.	0.00	1.	0.01	0.01
10.	550.	3000.	19.81	15883.	19.82	15883.	0.00	-0.	0.02	-0.00
0.	300.	1500.	9.79	4755.	9.79	4755.	0.00	-0.	0.03	-0.01
0.	300.	15000.	31.96	14441.	31.97	14440.	0.00	-1.	0.01	-0.01
0.	350.	1000.	7.98	4533.	7.98	4533.	0.00	-0.	0.05	-0.01
0.	350.	15000.	32.08	16711.	32.07	16709.	-0.01	-2.	-0.02	-0.01
0.	400.	1000.	7.99	5162.	8.00	5161.	0.00	-0.	0.06	-0.01
0.	400.	15000.	32.19	18941.	32.18	18938.	-0.00	-3.	-0.02	-0.01
0.	450.	1000.	8.01	5784.	8.01	5784.	-0.00	0.	-0.00	0.00
0.	450.	15000.	32.30	21129.	32.29	21128.	-0.00	-1.	-0.01	-0.01
0.	500.	1000.	8.02	6403.	8.02	6403.	-0.00	0.	-0.00	0.00
0.	500.	15000.	32.41	23280.	32.41	23279.	-0.00	-0.	-0.01	-0.00
0.	550.	1000.	8.03	7017.	8.03	7017.	-0.00	0.	-0.00	0.00
0.	550.	15000.	32.52	25395.	32.52	25393.	-0.00	-2.	-0.01	-0.01
-10.	300.	1000.	5.68	2765.	5.68	2765.	0.00	0.	0.04	0.00
-10.	300.	3500.	12.57	5944.	12.58	5944.	0.00	-0.	0.01	-0.00
-10.	350.	1000.	5.39	3054.	5.40	3055.	0.00	0.	0.02	0.01
-10.	350.	5000.	15.23	8241.	15.23	8241.	0.00	0.	0.00	0.00
-10.	400.	1000.	5.13	3310.	5.13	3310.	0.00	0.	0.01	0.01
-10.	400.	6000.	16.67	10162.	16.67	10161.	0.00	-0.	0.01	-0.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-10.	450.	1000.	4.87	3535.	4.88	3535.	0.00	0.	0.10	0.00
-10.	450.	7500.	18.77	12647.	18.78	12646.	0.00	-0.	0.02	-0.00
-10.	500.	1000.	4.64	3734.	4.64	3734.	0.00	0.	0.07	0.01
-10.	500.	9000.	20.68	15215.	20.69	15215.	0.00	-0.	0.01	-0.00
-10.	550.	1000.	4.43	3910.	4.43	3910.	0.00	0.	0.04	0.01
-10.	550.	10500.	22.45	17864.	22.45	17863.	-0.00	-0.	-0.01	-0.00
-20.	300.	1500.	5.76	2674.	5.76	2674.	0.00	0.	0.05	0.00
-20.	300.	5500.	14.34	6416.	14.34	6416.	-0.00	-0.	-0.00	-0.00
-20.	350.	1500.	5.33	2882.	5.33	2882.	0.00	0.	0.02	0.01
-20.	350.	7500.	16.91	8669.	16.92	8669.	0.01	-0.	0.03	-0.00
-20.	400.	1500.	4.95	3053.	4.95	3053.	0.01	-0.	0.11	-0.00
-20.	400.	9500.	19.14	11017.	19.14	11016.	-0.00	-0.	-0.00	-0.00
-20.	450.	1500.	4.61	3195.	4.61	3195.	0.00	0.	0.06	0.01
-20.	450.	11500.	21.12	13454.	21.12	13454.	-0.00	-0.	-0.01	-0.00
-20.	500.	2000.	5.49	4190.	5.49	4190.	0.00	0.	0.04	0.01
-20.	500.	14000.	23.48	16338.	23.48	16338.	0.00	-0.	0.00	-0.00
-20.	550.	2000.	5.17	4336.	5.17	4337.	0.00	1.	0.01	0.01
-20.	550.	15000.	24.03	18203.	24.03	18203.	-0.00	-0.	-0.01	-0.00
-30.	300.	2000.	5.88	2514.	5.88	2514.	0.00	0.	0.07	0.01
-30.	300.	8500.	17.13	6981.	17.13	6981.	-0.00	0.	-0.00	0.00
-30.	350.	2000.	5.37	2673.	5.37	2673.	0.00	0.	0.02	0.01
-30.	350.	11000.	19.53	9126.	19.53	9126.	0.00	0.	0.00	0.00
-30.	400.	2000.	4.92	2799.	4.92	2799.	0.01	0.	0.11	0.00
-30.	400.	14500.	22.72	11898.	22.72	11897.	0.00	-1.	0.01	-0.00
-30.	450.	2000.	4.53	2898.	4.54	2899.	0.00	0.	0.06	0.01
-30.	450.	15000.	22.45	13133.	22.45	13132.	0.00	-1.	0.00	-0.01
-30.	500.	2500.	5.12	3612.	5.12	3613.	0.00	0.	0.01	0.01
-30.	500.	15000.	21.68	14024.	21.68	14023.	0.00	-1.	0.01	-0.01
-30.	550.	2500.	4.78	3705.	4.78	3705.	0.01	0.	0.11	0.01
-30.	550.	15000.	20.95	14839.	20.96	14838.	0.01	-1.	0.03	-0.00
-40.	300.	2500.	6.06	2287.	6.06	2287.	0.00	0.	0.01	0.02
-40.	300.	13500.	21.69	7688.	21.69	7688.	0.00	-0.	0.01	-0.00
-40.	350.	2500.	5.48	2412.	5.48	2413.	0.00	0.	0.03	0.01
-40.	350.	15000.	22.25	9106.	22.24	9106.	-0.00	0.	-0.01	0.00
-40.	400.	3000.	5.85	2930.	5.86	2930.	0.00	0.	0.08	0.01
-40.	400.	15000.	21.24	9895.	21.24	9895.	-0.00	1.	-0.01	0.01
-40.	450.	3000.	5.39	3029.	5.39	3029.	0.00	0.	0.03	0.01
-40.	450.	15000.	20.30	10598.	20.30	10598.	-0.00	0.	-0.00	0.00
-40.	500.	3500.	5.72	3557.	5.73	3557.	0.00	0.	0.08	0.01
-40.	500.	15000.	19.42	11226.	19.42	11225.	0.00	-0.	0.00	-0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	6.02	4091.	6.02	4091.	0.00	0.	0.01	0.01
-40.	550.	15000.	18.60	11786.	18.60	11786.	0.00	1.	0.02	0.00
-45.	300.	2500.	5.69	1987.	5.69	1987.	0.00	0.	0.05	0.02
-45.	300.	15000.	22.61	7371.	22.61	7371.	0.00	0.	0.01	0.00
-45.	350.	3000.	5.99	2431.	6.00	2431.	0.01	0.	0.10	0.01
-45.	350.	15000.	21.47	8133.	21.47	8133.	0.00	0.	0.00	0.01
-45.	400.	3000.	5.46	2528.	5.46	2528.	0.00	0.	0.03	0.02
-45.	400.	15000.	20.41	8802.	20.41	8803.	0.00	1.	0.00	0.01
-45.	450.	3500.	5.75	2979.	5.75	2979.	0.00	1.	0.08	0.02
-45.	450.	15000.	19.42	9394.	19.42	9395.	-0.00	1.	-0.00	0.01
-45.	500.	4000.	5.99	3435.	6.00	3435.	0.01	1.	0.13	0.02
-45.	500.	15000.	18.51	9915.	18.51	9917.	0.00	1.	0.01	0.01
-45.	550.	4500.	6.22	3895.	6.22	3896.	0.00	1.	0.01	0.02
-45.	550.	15000.	17.65	10379.	17.66	10378.	0.00	-0.	0.02	-0.00
-60.	300.	4000.	7.40	1812.	7.40	1812.	0.00	0.	0.01	0.01
-60.	300.	15000.	20.96	4858.	20.96	4858.	0.01	0.	0.03	0.00
-60.	350.	4000.	6.67	1905.	6.67	1905.	0.00	0.	0.04	0.01
-60.	350.	15000.	19.69	5308.	19.69	5308.	0.00	0.	0.01	0.00
-60.	400.	5000.	7.39	2393.	7.39	2393.	0.00	0.	0.01	0.01
-60.	400.	15000.	18.53	5694.	18.53	5694.	0.00	0.	0.00	0.00
-60.	450.	5500.	7.39	2682.	7.40	2683.	0.00	0.	0.02	0.01
-60.	450.	15000.	17.46	6026.	17.47	6026.	0.00	0.	0.01	0.01
-60.	500.	6500.	7.95	3184.	7.96	3185.	0.01	0.	0.09	0.01
-60.	500.	15000.	16.49	6311.	16.49	6312.	0.00	1.	0.01	0.01
-60.	550.	7000.	7.93	3478.	7.94	3478.	0.01	0.	0.10	0.01
-60.	550.	15000.	15.60	6559.	15.61	6559.	0.00	0.	0.01	0.00

WEAPON COEFFICIENTS FOR IDNO 18

CFORM1 = 0.0 DKG1 = 0.0073290 DM1 = 0.0 VMUZ = 0. DS = 0.6617000
CFORM2 = 0.0168950 DKG2 = 0.1716599 DM2 = 0.3800000 FN = 0. SL = -.0002690

ITYPE = 1 IREF = 1 VE = 0.0
IBOTH = 2 DMAX = 5.00 DTI = 2.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	300.	300.	4.85	1658.	4.85	1658.	0.00	-0.	0.00	-0.00
0.	300.	1000.	9.60	2562.	9.60	2562.	0.00	-0.	0.00	-0.00
0.	350.	200.	3.91	1557.	3.91	1557.	0.00	0.	0.00	0.00
0.	350.	1100.	10.29	2891.	10.29	2891.	0.00	-0.	0.00	-0.00
0.	400.	200.	3.95	1650.	3.95	1650.	0.00	-0.	0.00	-0.00
0.	400.	1200.	10.94	3164.	10.94	3164.	0.00	0.	0.00	0.01
0.	450.	200.	3.97	1698.	3.97	1698.	0.00	0.	0.00	0.00
0.	450.	1300.	11.56	3382.	11.56	3382.	-0.00	-0.	-0.00	-0.00
0.	500.	200.	3.99	1697.	3.99	1697.	0.00	0.	0.00	0.00
0.	500.	1400.	12.14	3530.	12.14	3530.	0.00	0.	0.00	0.00
0.	550.	200.	3.98	1642.	3.99	1642.	0.00	0.	0.00	0.01
0.	550.	1500.	12.66	3597.	12.66	3597.	0.00	0.	0.00	0.01
-10.	300.	500.	4.27	1491.	4.27	1491.	0.00	0.	0.01	0.01
-10.	300.	1500.	9.97	2542.	9.97	2542.	0.00	0.	0.00	0.00
-10.	350.	500.	4.13	1591.	4.13	1591.	0.00	0.	0.01	0.01
-10.	350.	2000.	12.26	3061.	12.26	3061.	0.00	0.	0.00	0.00
-10.	400.	500.	4.05	1653.	4.05	1653.	0.00	0.	0.01	0.01
-10.	400.	2000.	12.23	3247.	12.23	3247.	0.00	-0.	0.00	-0.00
-10.	450.	600.	4.69	1882.	4.69	1883.	0.00	0.	0.01	0.01
-10.	450.	2000.	12.21	3379.	12.22	3379.	0.00	-0.	0.01	-0.00
-10.	500.	600.	4.69	1887.	4.69	1887.	0.00	0.	0.01	0.01
-10.	500.	2500.	14.46	3726.	14.46	3727.	-0.00	0.	-0.00	0.00
-10.	550.	700.	5.42	2035.	5.42	2035.	0.00	0.	0.01	0.01
-10.	550.	2500.	14.48	3738.	14.48	3738.	0.00	0.	0.00	0.00
-20.	300.	800.	4.52	1477.	4.52	1477.	0.00	0.	0.01	0.01
-20.	300.	2500.	12.54	2674.	12.54	2674.	0.00	0.	0.00	0.00
-20.	350.	900.	4.82	1681.	4.82	1681.	0.00	0.	0.01	0.01
-20.	350.	2500.	12.31	2887.	12.31	2887.	0.00	0.	0.00	0.00
-20.	400.	1000.	5.20	1863.	5.20	1863.	0.00	0.	0.01	0.01
-20.	400.	3000.	14.24	3267.	14.24	3267.	0.00	0.	0.00	0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	PLM VERSION NPS MODIFIED BOEING ALGORITHM DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
-20.	450.	1500.	7.53	2457.	7.53	2457.	0.00	0.	0.01	0.01
-20.	450.	3000.	14.13	3398.	14.13	3399.	0.00	0.	0.00	0.00
-20.	500.	1500.	7.50	2480.	7.50	2480.	0.00	0.	0.01	0.01
-20.	500.	3500.	16.12	3672.	16.12	3673.	0.00	0.	0.00	0.00
-20.	550.	1500.	7.56	2461.	7.56	2461.	0.00	0.	0.00	0.01
-20.	550.	3500.	16.13	3697.	16.13	3697.	0.00	0.	0.00	0.01
-30.	300.	1500.	6.56	1730.	6.56	1730.	0.00	0.	0.01	0.01
-30.	300.	3000.	12.89	2463.	12.89	2463.	0.00	0.	0.01	0.01
-30.	350.	1500.	6.22	1825.	6.22	1825.	0.00	0.	0.01	0.01
-30.	350.	3500.	14.51	2814.	14.51	2814.	0.00	0.	0.01	0.01
-30.	400.	2000.	8.10	2266.	8.10	2267.	0.00	0.	0.01	0.01
-30.	400.	4000.	16.18	3121.	16.19	3121.	0.00	0.	0.01	0.01
-30.	450.	2000.	7.93	2324.	7.93	2324.	0.00	0.	0.01	0.01
-30.	450.	4000.	15.98	3249.	15.98	3250.	0.00	0.	0.00	0.01
-30.	500.	2500.	9.92	2679.	9.92	2679.	0.00	0.	0.01	0.01
-30.	500.	4500.	17.78	3471.	17.78	3471.	0.00	0.	0.00	0.01
-30.	550.	2500.	9.95	2674.	9.95	2675.	0.00	0.	0.01	0.01
-30.	550.	4500.	17.76	3505.	17.76	3506.	0.00	0.	0.01	0.01
-40.	300.	2500.	9.46	1868.	9.46	1868.	0.00	0.	0.01	0.01
-40.	300.	4500.	17.23	2403.	17.23	2403.	0.00	0.	0.01	0.01
-40.	350.	2500.	8.99	1983.	8.99	1983.	0.00	0.	0.01	0.01
-40.	350.	5000.	18.60	2682.	18.60	2682.	0.00	0.	0.00	0.01
-40.	400.	3000.	10.57	2289.	10.57	2289.	0.00	0.	0.01	0.01
-40.	400.	5000.	18.20	2840.	18.20	2841.	0.00	0.	0.00	0.02
-40.	450.	3000.	10.32	2358.	10.32	2358.	0.00	0.	0.01	0.01
-40.	450.	5500.	19.75	3056.	19.75	3056.	0.00	0.	0.00	0.01
-40.	500.	3500.	12.10	2601.	12.10	2601.	0.00	0.	0.00	0.01
-40.	500.	6000.	21.39	3230.	21.39	3230.	0.00	1.	0.00	0.02
-40.	550.	4000.	13.97	2789.	13.97	2789.	0.00	0.	0.00	0.01
-40.	550.	6000.	21.31	3277.	21.31	3278.	0.00	1.	0.00	0.02
-45.	300.	2500.	8.89	1663.	8.89	1663.	0.00	0.	0.02	0.02
-45.	300.	5000.	18.44	2254.	18.44	2255.	0.00	0.	0.01	0.01
-45.	350.	3000.	10.29	1953.	10.29	1953.	0.00	0.	0.01	0.02
-45.	350.	5500.	19.72	2506.	19.73	2506.	0.00	0.	0.01	0.02
-45.	400.	3000.	9.89	2039.	9.89	2039.	0.00	0.	0.01	0.01
-45.	400.	6000.	21.10	2727.	21.10	2728.	0.00	0.	0.01	0.02
-45.	450.	3500.	11.48	2284.	11.49	2284.	0.00	0.	0.01	0.02
-45.	450.	6500.	22.55	2918.	22.55	2919.	0.00	1.	0.00	0.02
-45.	500.	4000.	13.19	2487.	13.19	2488.	0.00	0.	0.01	0.01
-45.	500.	7000.	24.11	3074.	24.11	3075.	0.00	0.	0.00	0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	550.	4500.	15.00	2646.	15.00	2646.	0.00	0.	0.00	0.02
-45.	550.	7000.	23.99	3128.	23.99	3129.	0.00	1.	0.00	0.02
-60.	300.	4000.	13.12	1395.	13.12	1395.	0.00	0.	0.00	0.01
-60.	300.	11000.	38.05	1892.	38.04	1892.	-0.00	0.	-0.00	0.01
-60.	350.	4000.	12.44	1489.	12.44	1489.	0.00	0.	0.01	0.01
-60.	350.	12000.	40.64	2095.	40.64	2095.	-0.00	0.	-0.00	0.02
-60.	400.	5000.	15.54	1730.	15.54	1730.	0.00	0.	0.00	0.01
-60.	400.	13000.	43.29	2282.	43.29	2282.	-0.00	1.	-0.00	0.03
-60.	450.	5500.	16.92	1868.	16.93	1868.	0.00	0.	0.00	0.01
-60.	450.	14000.	45.98	2454.	45.98	2454.	-0.00	1.	-0.00	0.02
-60.	500.	6500.	20.22	2041.	20.22	2041.	-0.00	0.	-0.00	0.01
-60.	500.	14500.	47.12	2585.	47.12	2585.	-0.00	1.	-0.00	0.02
-60.	550.	7000.	21.83	2128.	21.83	2128.	0.00	0.	0.00	0.02
-60.	550.	15000.	48.32	2700.	48.32	2701.	-0.00	1.	-0.00	0.03

WEAPON COEFFICIENTS FOR IDNO 20

CFORM1 = 2.2972994 DKG1 = 0.0081750 DM1 = 0.3200000 VMUZ = 0. DS = 4.0599995
CFORM2 = 0.0111360 DKG2 = 0.1688499 DM2 = 0.4100000 FN = 0. SL = 0.0

ITYPE = 1 IREF = 1 VE = 0.0
IBOTH = 2 DMAX = 5.00 DTI = 2.00

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	9.84	3670.	9.84	3670.	0.00	-0.	0.01	-0.01
10.	300.	3000.	21.59	5128.	21.59	5128.	0.00	-0.	0.00	-0.01
10.	350.	500.	10.65	4316.	10.65	4315.	0.00	-0.	0.00	-0.01
10.	350.	3000.	22.33	5783.	22.33	5783.	-0.00	-1.	-0.00	-0.01
10.	400.	500.	11.40	4910.	11.40	4909.	0.00	-1.	0.00	-0.01
10.	400.	3000.	23.01	6370.	23.01	6369.	-0.00	-1.	-0.00	-0.01
10.	450.	500.	12.05	5425.	12.05	5424.	0.00	-1.	0.00	-0.01
10.	450.	3000.	23.59	6876.	23.59	6875.	-0.00	-1.	-0.00	-0.01
10.	500.	500.	12.66	5892.	12.66	5891.	-0.00	-1.	-0.00	-0.01
10.	500.	3000.	24.11	7333.	24.11	7332.	-0.00	-1.	-0.00	-0.01
10.	550.	500.	13.25	6360.	13.25	6360.	-0.00	-1.	-0.00	-0.01
10.	550.	3000.	24.63	7789.	24.63	7788.	-0.00	-0.	-0.00	-0.01
0.	300.	1000.	9.10	3534.	9.10	3533.	0.00	-0.	0.01	-0.01
0.	300.	15000.	59.42	6456.	59.42	6456.	-0.01	1.	-0.01	0.01
0.	350.	1000.	9.27	4037.	9.27	4037.	0.00	-0.	0.01	-0.01
0.	350.	15000.	59.78	7202.	59.77	7203.	-0.01	0.	-0.01	0.00
0.	400.	1000.	9.44	4495.	9.44	4494.	0.00	-0.	0.01	-0.01
0.	400.	15000.	60.10	7866.	60.09	7867.	-0.01	0.	-0.01	0.00
0.	450.	1000.	9.60	4894.	9.60	4893.	0.00	-0.	0.01	-0.01
0.	450.	15000.	60.37	8451.	60.37	8452.	-0.00	1.	-0.01	0.01
0.	500.	1000.	9.75	5258.	9.75	5257.	0.00	-0.	0.01	-0.01
0.	500.	15000.	60.63	9009.	60.62	9011.	-0.01	1.	-0.01	0.01
0.	550.	1000.	9.90	5628.	9.90	5628.	0.00	-1.	0.01	-0.01
0.	550.	15000.	60.88	9587.	60.87	9588.	-0.00	2.	-0.01	0.02
-10.	300.	1500.	8.63	3348.	8.63	3348.	0.00	0.	0.02	0.00
-10.	300.	2500.	13.22	4141.	13.22	4140.	0.00	-0.	0.02	-0.00
-10.	350.	1500.	8.36	3726.	8.37	3726.	0.00	-0.	0.02	-0.00
-10.	350.	3000.	15.18	4914.	15.18	4914.	0.00	-0.	0.01	-0.00
-10.	400.	1500.	8.13	4057.	8.13	4057.	0.00	-0.	0.02	-0.00
-10.	400.	3500.	17.11	5618.	17.11	5618.	0.00	-0.	0.01	-0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1500.	7.93	4334.	7.93	4334.	0.00	-0.	0.02	-0.00
-10.	450.	3500.	17.01	6030.	17.02	6029.	0.00	-0.	0.01	-0.00
-10.	500.	1500.	7.74	4580.	7.74	4580.	0.00	0.	0.03	0.00
-10.	500.	4000.	18.94	6627.	18.94	6626.	0.00	-0.	0.01	-0.01
-10.	550.	2000.	10.10	5554.	10.10	5554.	0.00	-0.	0.02	-0.00
-10.	550.	4500.	20.80	7215.	20.80	7215.	0.00	-0.	0.01	-0.01
-20.	300.	2000.	8.38	3123.	8.39	3123.	0.00	0.	0.02	0.00
-20.	300.	3500.	14.55	4056.	14.56	4056.	0.00	-0.	0.01	-0.00
-20.	350.	2000.	7.85	3413.	7.85	3413.	0.00	-0.	0.03	-0.00
-20.	350.	4000.	16.02	4717.	16.02	4716.	0.00	-0.	0.02	-0.01
-20.	400.	2500.	9.48	4163.	9.48	4163.	0.00	0.	0.03	0.00
-20.	400.	4500.	17.52	5327.	17.52	5326.	0.00	-0.	0.01	-0.01
-20.	450.	2500.	9.08	4401.	9.08	4401.	0.00	0.	0.03	0.00
-20.	450.	5000.	19.06	5874.	19.06	5874.	0.00	-0.	0.02	-0.01
-20.	500.	2500.	8.74	4605.	8.74	4605.	0.00	0.	0.03	0.00
-20.	500.	5500.	20.60	6387.	20.60	6387.	0.00	0.	0.01	0.00
-20.	550.	2500.	8.31	4812.	8.31	4812.	0.00	0.	0.03	0.00
-20.	550.	6000.	22.09	6908.	22.09	6908.	0.00	-0.	0.01	-0.00
-30.	300.	2500.	8.35	2855.	8.35	2855.	0.00	0.	0.02	0.00
-30.	300.	5000.	17.80	3961.	17.80	3960.	0.00	-0.	0.02	-0.00
-30.	350.	2500.	7.64	3081.	7.64	3081.	0.00	0.	0.03	0.00
-30.	350.	5500.	18.86	4520.	18.86	4520.	0.00	0.	0.02	0.00
-30.	400.	3000.	8.85	3677.	8.85	3677.	0.00	0.	0.03	0.00
-30.	400.	6000.	19.99	5036.	19.99	5035.	0.00	-0.	0.02	-0.00
-30.	450.	3000.	8.28	3854.	8.28	3854.	0.00	0.	0.03	0.00
-30.	450.	7000.	22.99	5609.	22.99	5609.	0.00	-0.	0.01	-0.00
-30.	500.	3000.	7.79	4003.	7.79	4003.	0.00	0.	0.03	0.00
-30.	500.	7500.	24.19	6051.	24.20	6051.	0.00	-0.	0.02	-0.00
-30.	550.	3500.	9.10	4592.	9.10	4593.	0.00	0.	0.03	0.01
-30.	550.	8000.	25.35	6508.	25.36	6508.	0.00	0.	0.01	0.00
-40.	300.	3000.	8.51	2537.	8.51	2538.	0.00	0.	0.03	0.01
-40.	300.	6500.	21.06	3634.	21.06	3634.	0.00	0.	0.01	0.00
-40.	350.	3000.	7.66	2717.	7.66	2717.	0.00	0.	0.03	0.01
-40.	350.	7500.	23.55	4186.	23.56	4186.	0.00	0.	0.02	0.00
-40.	400.	3500.	8.54	3183.	8.55	3183.	0.00	0.	0.03	0.01
-40.	400.	8000.	24.37	4621.	24.38	4621.	0.00	0.	0.01	0.00
-40.	450.	3500.	7.91	3315.	7.91	3315.	0.00	0.	0.03	0.01
-40.	450.	9000.	27.02	5082.	27.02	5082.	0.00	0.	0.01	0.00
-40.	500.	4000.	8.96	3762.	8.96	3762.	0.00	0.	0.03	0.01
-40.	500.	9500.	27.94	5465.	27.94	5465.	0.00	0.	0.01	0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	8.29	3890.	8.29	3890.	0.00	0.	0.04	0.01
-40.	550.	10500.	30.48	5931.	30.48	5932.	0.00	1.	0.01	0.01
-45.	300.	3000.	7.84	2235.	7.84	2235.	0.00	0.	0.02	0.01
-45.	300.	7500.	23.62	3433.	23.63	3434.	0.00	0.	0.01	0.01
-45.	350.	3500.	8.54	2651.	8.54	2652.	0.00	0.	0.03	0.01
-45.	350.	8500.	25.94	3926.	25.94	3927.	0.00	0.	0.01	0.01
-45.	400.	3500.	7.75	2788.	7.75	2788.	0.00	0.	0.04	0.02
-45.	400.	9500.	28.33	4378.	28.34	4379.	0.00	1.	0.02	0.01
-45.	450.	4000.	8.61	3184.	8.61	3184.	0.00	1.	0.03	0.02
-45.	450.	10500.	30.80	4790.	30.80	4791.	0.00	1.	0.01	0.01
-45.	500.	4000.	7.98	3290.	7.98	3291.	0.00	1.	0.03	0.02
-45.	500.	11500.	33.22	5197.	33.23	5198.	0.00	1.	0.01	0.02
-45.	550.	4500.	8.83	3689.	8.83	3689.	0.00	0.	0.03	0.01
-45.	550.	12000.	33.92	5573.	33.93	5573.	0.01	1.	0.02	0.01
-60.	300.	4000.	9.41	1731.	9.41	1731.	0.00	0.	0.03	0.01
-60.	300.	15000.	46.06	2743.	46.06	2744.	-0.00	0.	-0.00	0.02
-60.	350.	4000.	8.33	1841.	8.33	1841.	0.00	0.	0.03	0.01
-60.	350.	15000.	44.66	3047.	44.66	3047.	0.00	0.	0.00	0.02
-60.	400.	5000.	10.34	2254.	10.34	2254.	0.00	0.	0.03	0.00
-60.	400.	15000.	43.39	3315.	43.39	3316.	0.00	0.	0.00	0.01
-60.	450.	5000.	9.51	2345.	9.51	2345.	0.00	0.	0.03	0.01
-60.	450.	15000.	42.22	3557.	42.22	3557.	0.00	0.	0.00	0.00
-60.	500.	6500.	13.21	2873.	13.21	2874.	0.00	0.	0.03	0.00
-60.	500.	15000.	41.06	3792.	41.07	3793.	0.00	0.	0.01	0.01
-60.	550.	7000.	13.83	3116.	13.83	3116.	0.00	0.	0.02	0.01
-60.	550.	15000.	39.84	4035.	39.85	4036.	0.00	0.	0.01	0.01

WEAPON COEFFICIENTS FOR IDNO 21

CFORM1 =	2.2403994	DKG1 =	0.0	DM1 =	0.0	VMUZ =	0.	DS =	4.0000000
CFORM2 =	0.1178000	DKG2 =	0.0	DM2 =	0.0	FN =	0.	SL =	0.0
ITYPE =	1	IREF =	1	VE =	0.0				
IBOTH =	2	DMAX =	5.00	DTI =	1.62				

			PLM VERSION NPS MODIFIED BOEING ALGORITHM		FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	400.	500.	12.20	4720.	12.20	4720.	0.00	0.	0.00	0.00
10.	400.	3000.	25.97	5552.	25.98	5553.	0.00	1.	0.01	0.01
10.	450.	500.	13.00	5268.	13.00	5268.	0.00	0.	0.00	0.01
10.	450.	3000.	26.67	6077.	26.67	6077.	0.00	1.	0.00	0.01
10.	500.	500.	13.73	5754.	13.73	5754.	0.00	0.	0.00	0.01
10.	500.	3000.	27.32	6544.	27.32	6545.	0.00	1.	0.01	0.01
10.	550.	500.	14.30	6090.	14.31	6090.	0.00	-0.	0.00	-0.00
10.	550.	3000.	27.83	6875.	27.83	6876.	0.00	0.	0.00	0.01
0.	400.	1500.	13.36	4873.	13.36	4874.	0.00	0.	0.00	0.00
0.	400.	15000.	75.21	6515.	75.22	6517.	0.01	2.	0.02	0.04
0.	450.	1500.	13.58	5354.	13.58	5354.	0.00	0.	0.00	0.00
0.	450.	15000.	75.48	7102.	75.49	7104.	0.01	2.	0.01	0.02
0.	500.	1000.	10.52	5309.	10.52	5309.	0.00	0.	0.00	0.00
0.	500.	15000.	75.74	7617.	75.75	7619.	0.01	2.	0.01	0.03
0.	550.	1000.	10.77	5560.	10.77	5560.	0.00	0.	0.00	0.00
0.	550.	15000.	75.98	8001.	76.00	8003.	0.01	2.	0.02	0.03
-10.	400.	2000.	11.58	4548.	11.58	4548.	0.00	0.	0.01	0.01
-10.	400.	3000.	17.06	5026.	17.06	5026.	0.00	0.	0.01	0.01
-10.	450.	2000.	11.31	4943.	11.31	4944.	0.00	0.	0.01	0.01
-10.	450.	3500.	19.43	5625.	19.43	5626.	0.00	0.	0.01	0.01
-10.	500.	2000.	11.14	5259.	11.14	5260.	0.00	0.	0.01	0.01
-10.	500.	4000.	21.84	6121.	21.84	6122.	0.00	0.	0.01	0.01
-10.	550.	2000.	11.20	5423.	11.20	5424.	0.00	0.	0.01	0.01
-10.	550.	4000.	21.88	6312.	21.88	6312.	0.00	0.	0.01	0.01
-20.	400.	3000.	12.89	4443.	12.89	4444.	0.00	0.	0.01	0.01
-20.	400.	4500.	20.50	4899.	20.51	4899.	0.00	1.	0.01	0.01
-20.	450.	3000.	12.27	4789.	12.27	4789.	0.00	0.	0.01	0.01
-20.	450.	5000.	22.39	5412.	22.40	5413.	0.00	1.	0.01	0.01
-20.	500.	3000.	11.87	5048.	11.87	5048.	0.00	0.	0.01	0.01
-20.	500.	5000.	22.01	5748.	22.01	5748.	0.00	1.	0.01	0.01

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-20.	550.	3000.	11.92	5154.	11.92	5155.	0.00	1.	0.01	0.01
-20.	550.	5500.	24.41	5953.	24.42	5953.	0.00	1.	0.01	0.01
-30.	400.	3500.	11.83	3967.	11.83	3967.	0.00	0.	0.01	0.01
-30.	400.	5000.	19.23	4424.	19.23	4424.	0.00	1.	0.02	0.02
-30.	450.	3500.	10.99	4229.	10.99	4229.	0.00	0.	0.02	0.01
-30.	450.	6500.	25.56	5009.	25.56	5010.	0.00	1.	0.01	0.02
-30.	500.	3500.	10.46	4408.	10.46	4409.	0.00	0.	0.02	0.01
-30.	500.	6500.	24.97	5297.	24.97	5298.	0.00	1.	0.01	0.02
-30.	550.	4000.	12.96	4760.	12.97	4760.	0.00	1.	0.01	0.01
-30.	550.	7000.	27.36	5425.	27.36	5426.	0.00	1.	0.01	0.03
-40.	400.	4000.	11.26	3435.	11.26	3435.	0.00	0.	0.01	0.01
-40.	400.	7500.	27.86	4071.	27.86	4072.	0.00	1.	0.01	0.02
-40.	450.	4500.	12.52	3854.	12.52	3854.	0.00	0.	0.01	0.01
-40.	450.	8000.	29.05	4446.	29.05	4447.	0.00	1.	0.01	0.03
-40.	500.	4500.	11.90	4002.	11.90	4003.	0.00	1.	0.02	0.01
-40.	500.	8500.	30.62	4724.	30.63	4725.	0.00	1.	0.01	0.02
-40.	550.	4500.	12.09	4052.	12.09	4053.	-0.00	1.	-0.01	0.02
-40.	550.	9500.	35.43	4799.	35.43	4800.	0.00	2.	0.00	0.04
-45.	400.	4500.	12.26	3241.	12.27	3242.	0.00	1.	0.01	0.02
-45.	400.	8500.	31.04	3786.	31.05	3787.	0.00	1.	0.01	0.03
-45.	450.	4500.	11.17	3429.	11.18	3429.	0.00	1.	0.02	0.02
-45.	450.	9500.	34.36	4157.	34.37	4158.	0.00	1.	0.01	0.03
-45.	500.	4500.	10.59	3541.	10.60	3542.	0.00	1.	0.02	0.02
-45.	500.	10000.	35.82	4407.	35.82	4409.	0.01	2.	0.02	0.04
-45.	550.	5000.	13.04	3776.	13.04	3777.	0.00	1.	0.01	0.02
-45.	550.	10500.	38.41	4420.	38.42	4422.	0.01	2.	0.02	0.04

WEAPON COEFFICIENTS FOR IDNO 22

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CFORM1 = 0.0          DKG1 = 0.0097670     DM1 = 0.0           VMUZ =      0.     DS = 0.6790000
CFORM2 = 0.0230625    DKG2 = 0.2328700     DM2 = 0.3800000     FN =        0.     SL = -.0003030

ITYPE =  1            IREF = 1             VE =  0.0
IBOTH =  2            DMAX = 5.00          DTI = 1.62
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DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	300.	200.	4.00	1344.	4.00	1344.	0.00	-0.	0.00	-0.00
0.	300.	800.	8.79	2174.	8.79	2174.	0.00	-0.	0.00	-0.00
0.	350.	200.	4.06	1471.	4.06	1471.	0.00	-0.	0.00	-0.00
0.	350.	900.	9.55	2452.	9.55	2452.	0.00	-0.	0.00	-0.00
0.	400.	200.	4.10	1547.	4.10	1547.	0.00	0.	0.01	0.00
0.	400.	1000.	10.26	2673.	10.27	2673.	0.00	0.	0.00	0.00
0.	450.	200.	4.13	1575.	4.13	1576.	0.00	0.	0.00	0.00
0.	450.	1100.	10.94	2834.	10.94	2834.	0.00	0.	0.00	0.00
0.	500.	200.	4.13	1550.	4.14	1550.	0.00	0.	0.01	0.01
0.	500.	1200.	11.55	2921.	11.55	2921.	0.00	-0.	0.00	-0.00
0.	550.	200.	4.16	1484.	4.16	1484.	0.00	0.	0.00	0.01
0.	550.	1200.	11.56	2866.	11.56	2866.	0.00	0.	0.00	0.01
-10.	300.	500.	4.52	1436.	4.52	1436.	0.00	0.	0.01	0.01
-10.	300.	1500.	10.66	2310.	10.66	2311.	0.00	0.	0.00	0.01
-10.	350.	500.	4.40	1529.	4.40	1529.	0.00	0.	0.01	0.01
-10.	350.	1500.	10.61	2497.	10.61	2497.	0.00	0.	0.01	0.01
-10.	400.	500.	4.34	1584.	4.34	1584.	0.00	0.	0.01	0.01
-10.	400.	1500.	10.58	2632.	10.58	2632.	0.00	0.	0.01	0.00
-10.	450.	600.	5.04	1790.	5.05	1790.	0.00	0.	0.01	0.01
-10.	450.	2000.	13.18	2973.	13.18	2973.	0.00	0.	0.00	0.00
-10.	500.	600.	5.07	1778.	5.07	1778.	0.00	0.	0.01	0.00
-10.	500.	2000.	13.20	3004.	13.20	3004.	0.00	0.	0.01	0.01
-10.	550.	700.	5.86	1889.	5.86	1889.	0.00	0.	0.01	0.01
-10.	550.	2000.	13.24	2962.	13.24	2962.	0.00	0.	0.00	0.01
-20.	300.	900.	5.45	1535.	5.45	1535.	0.00	0.	0.01	0.00
-20.	300.	2000.	11.31	2229.	11.31	2229.	0.00	0.	0.00	0.00
-20.	350.	900.	5.22	1623.	5.22	1623.	0.00	0.	0.01	0.00
-20.	350.	2000.	11.10	2397.	11.10	2397.	0.00	0.	0.01	0.00
-20.	400.	1000.	5.65	1788.	5.65	1788.	0.00	0.	0.01	0.01
-20.	400.	2500.	13.40	2720.	13.40	2720.	0.00	0.	0.00	0.00

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-20.	450.	1500.	8.31	2283.	8.31	2283.	0.00	0.	0.01	0.01
-20.	450.	2500.	13.32	2809.	13.32	2809.	0.00	0.	0.00	0.01
-20.	500.	1500.	8.31	2290.	8.31	2290.	0.00	0.	0.01	0.00
-20.	500.	2500.	13.31	2840.	13.31	2840.	0.00	0.	0.00	0.00
-20.	550.	1500.	8.42	2249.	8.42	2250.	0.00	0.	0.01	0.01
-20.	550.	3000.	15.72	2984.	15.72	2984.	0.00	0.	0.01	0.01
-30.	300.	1500.	7.20	1646.	7.20	1646.	0.00	0.	0.01	0.01
-30.	300.	2500.	12.04	2077.	12.04	2078.	0.00	0.	0.01	0.01
-30.	350.	1500.	6.87	1743.	6.87	1743.	0.00	0.	0.01	0.01
-30.	350.	3000.	14.02	2375.	14.02	2375.	0.00	0.	0.01	0.01
-30.	400.	2000.	9.07	2114.	9.07	2115.	0.00	0.	0.01	0.01
-30.	400.	3000.	13.77	2499.	13.77	2499.	0.00	0.	0.01	0.01
-30.	450.	2000.	8.94	2165.	8.94	2165.	0.00	0.	0.01	0.01
-30.	450.	3500.	15.89	2712.	15.89	2713.	0.00	0.	0.01	0.01
-30.	500.	2500.	11.27	2424.	11.27	2425.	0.00	0.	0.01	0.01
-30.	500.	3500.	15.84	2751.	15.84	2751.	0.00	0.	0.01	0.01
-30.	550.	2500.	11.38	2394.	11.38	2394.	0.00	0.	0.01	0.01
-30.	550.	4000.	18.12	2851.	18.12	2851.	0.00	0.	0.01	0.01
-40.	300.	2500.	10.62	1731.	10.62	1732.	0.00	0.	0.01	0.01
-40.	300.	3500.	15.15	1961.	15.15	1961.	0.00	0.	0.01	0.01
-40.	350.	2500.	10.16	1845.	10.16	1845.	0.00	0.	0.01	0.01
-40.	350.	4000.	16.90	2193.	16.90	2193.	0.00	0.	0.01	0.01
-40.	400.	3000.	12.09	2090.	12.09	2090.	0.00	0.	0.01	0.01
-40.	400.	4000.	16.54	2312.	16.55	2312.	0.00	0.	0.01	0.01
-40.	450.	3000.	11.89	2150.	11.89	2150.	0.00	0.	0.01	0.01
-40.	450.	4500.	18.50	2476.	18.50	2476.	0.00	0.	0.01	0.02
-40.	500.	3500.	14.04	2314.	14.04	2315.	0.00	0.	0.01	0.01
-40.	500.	4500.	18.40	2518.	18.40	2519.	0.00	0.	0.01	0.02
-40.	550.	4000.	16.31	2415.	16.31	2416.	0.00	0.	0.01	0.01
-40.	550.	5000.	20.59	2594.	20.60	2594.	0.00	0.	0.01	0.02
-45.	300.	2500.	10.01	1554.	10.01	1554.	0.00	0.	0.01	0.01
-45.	300.	4000.	16.71	1851.	16.71	1851.	0.00	0.	0.01	0.02
-45.	350.	3000.	11.75	1795.	11.75	1795.	0.00	0.	0.01	0.02
-45.	350.	4500.	18.37	2057.	18.37	2057.	0.00	0.	0.01	0.02
-45.	400.	3000.	11.38	1878.	11.38	1878.	0.00	0.	0.01	0.02
-45.	400.	5000.	20.13	2230.	20.14	2231.	0.00	1.	0.02	0.02
-45.	450.	3500.	13.34	2062.	13.35	2062.	0.00	0.	0.01	0.02
-45.	450.	5000.	19.85	2315.	19.86	2315.	0.00	0.	0.01	0.02
-45.	500.	4000.	15.44	2196.	15.44	2197.	0.00	0.	0.01	0.01
-45.	500.	5500.	21.86	2419.	21.86	2420.	0.00	1.	0.01	0.02

DEG	TAS	ALT	PLM VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	FORTRAN VERSION NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	550.	4500.	17.65	2278.	17.66	2279.	0.00	0.	0.01	0.02
-45.	550.	6000.	23.98	2482.	23.98	2483.	0.00	1.	0.01	0.03
-60.	300.	4000.	15.14	1257.	15.14	1257.	0.00	0.	0.01	0.01
-60.	300.	8500.	34.15	1496.	34.15	1496.	0.00	0.	0.01	0.02
-60.	350.	4000.	14.48	1346.	14.48	1346.	0.00	0.	0.00	0.02
-60.	350.	9500.	37.50	1653.	37.50	1654.	0.00	0.	0.01	0.02
-60.	400.	5000.	18.27	1522.	18.28	1522.	0.00	0.	0.00	0.02
-60.	400.	10000.	38.91	1776.	38.92	1776.	0.01	0.	0.02	0.02
-60.	450.	5500.	20.04	1621.	20.04	1622.	0.00	0.	0.01	0.01
-60.	450.	10500.	40.44	1880.	40.45	1880.	0.01	0.	0.01	0.02
-60.	500.	6500.	24.04	1729.	24.04	1730.	0.00	0.	0.01	0.02
-60.	500.	11500.	44.00	1986.	44.01	1987.	0.01	1.	0.02	0.03
-60.	550.	7000.	26.06	1775.	26.06	1775.	0.00	0.	0.01	0.02
-60.	550.	12000.	45.71	2054.	45.72	2054.	0.01	1.	0.02	0.03

APPENDIX B

This appendix compares the NAVAIR 01-1C-1T-1 Ballistics Tables with the results of the FORTRAN version of the ballistics algorithm. The difference in down range travel and time of fall is presented.

WEAPON COEFFICIENTS FOR IDNO 4

CFORM1 = 0.0039235 DKG1 = 0.0027540 DM1 = 0.0 VMUZ = 0. DS = 0.0
CFORM2 = 0.0 DKG2 = 0.0 DM2 = 0.0 FN = 0. SL = 0.0

ITYPE = -1 IREF = 2 VE = 0.0
IBOTH = 1 DMAX = 3.00 DTI = 2.00

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.96	4190.	8.94	4178.	-0.02	-12.	-0.18	-0.30
10.	300.	3000.	17.08	7590.	17.07	7576.	-0.01	-14.	-0.07	-0.18
10.	350.	500.	9.61	5161.	9.59	5151.	-0.02	-10.	-0.24	-0.20
10.	350.	3000.	17.66	8973.	17.64	8970.	-0.02	-3.	-0.10	-0.03
10.	400.	500.	10.27	6197.	10.24	6191.	-0.03	-6.	-0.27	-0.09
10.	400.	3000.	18.24	10371.	18.22	10384.	-0.02	13.	-0.11	0.12
10.	450.	500.	10.93	7285.	10.90	7276.	-0.03	-9.	-0.30	-0.12
10.	450.	3000.	18.83	11774.	18.79	11790.	-0.04	16.	-0.20	0.14
10.	500.	500.	11.59	8406.	11.54	8376.	-0.05	-30.	-0.40	-0.36
10.	500.	3000.	19.40	13157.	19.36	13146.	-0.04	-11.	-0.23	-0.08
10.	550.	500.	12.21	9495.	12.16	9437.	-0.05	-58.	-0.43	-0.61
10.	550.	3000.	19.94	14439.	19.89	14400.	-0.05	-39.	-0.24	-0.27
0.	300.	500.	5.65	2744.	5.64	2735.	-0.01	-9.	-0.20	-0.31
0.	300.	15000.	33.11	13726.	33.06	13728.	-0.05	2.	-0.16	0.01
0.	350.	500.	5.67	3186.	5.65	3176.	-0.02	-10.	-0.39	-0.30
0.	350.	15000.	33.30	15780.	33.24	15802.	-0.06	22.	-0.17	0.14
0.	400.	500.	5.68	3624.	5.66	3612.	-0.02	-12.	-0.40	-0.33
0.	400.	15000.	33.50	17759.	33.46	17787.	-0.04	28.	-0.13	0.16
0.	450.	500.	5.69	4055.	5.67	4038.	-0.02	-17.	-0.37	-0.41
0.	450.	15000.	33.71	19648.	33.69	19652.	-0.02	4.	-0.05	0.02
0.	500.	500.	5.71	4478.	5.68	4448.	-0.03	-30.	-0.49	-0.67
0.	500.	15000.	33.94	21390.	33.95	21320.	0.01	-70.	0.03	-0.32
0.	550.	500.	5.73	4876.	5.70	4831.	-0.03	-45.	-0.53	-0.92
0.	550.	15000.	34.18	22838.	34.21	22763.	0.03	-75.	0.10	-0.33
-10.	300.	500.	3.54	1716.	3.52	1710.	-0.02	-6.	-0.44	-0.34
-10.	300.	3500.	12.81	5819.	12.80	5813.	-0.01	-6.	-0.09	-0.09
-10.	350.	500.	3.30	1863.	3.28	1856.	-0.02	-7.	-0.45	-0.39
-10.	350.	4500.	14.63	7552.	14.60	7553.	-0.03	1.	-0.18	0.01
-10.	400.	500.	3.08	1987.	3.07	1977.	-0.01	-10.	-0.35	-0.49
-10.	400.	5500.	16.28	9349.	16.24	9359.	-0.04	10.	-0.26	0.11

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	4.96	3507.	4.95	3497.	-0.01	-10.	-0.26	-0.29
-10.	450.	7000.	18.66	11652.	18.63	11655.	-0.03	3.	-0.18	0.03
-10.	500.	1000.	4.74	3703.	4.73	3687.	-0.01	-16.	-0.20	-0.43
-10.	500.	8000.	20.08	13508.	20.08	13475.	-0.00	-33.	-0.02	-0.24
-10.	550.	1000.	4.55	3869.	4.54	3848.	-0.01	-21.	-0.20	-0.55
-10.	550.	9000.	21.50	15269.	21.52	15223.	0.02	-46.	0.10	-0.30
-20.	300.	1000.	4.26	1962.	4.25	1959.	-0.01	-3.	-0.14	-0.17
-20.	300.	5500.	14.70	6278.	14.68	6275.	-0.02	-3.	-0.15	-0.05
-20.	350.	1000.	3.90	2091.	3.89	2087.	-0.01	-4.	-0.24	-0.21
-20.	350.	7000.	16.68	8084.	16.64	8088.	-0.04	4.	-0.23	0.04
-20.	400.	1000.	3.59	2193.	3.58	2188.	-0.01	-5.	-0.41	-0.23
-20.	400.	8500.	18.47	9949.	18.43	9953.	-0.04	4.	-0.20	0.04
-20.	450.	1500.	4.70	3179.	4.69	3173.	-0.01	-6.	-0.20	-0.20
-20.	450.	10500.	20.84	12203.	20.83	12196.	-0.01	-7.	-0.05	-0.06
-20.	500.	1500.	4.40	3296.	4.40	3287.	0.00	-9.	0.03	-0.29
-20.	500.	12000.	22.45	14101.	22.49	14051.	0.04	-50.	0.18	-0.35
-20.	550.	1500.	4.16	3390.	4.16	3378.	-0.00	-12.	-0.11	-0.36
-20.	550.	13500.	24.15	15858.	24.17	15832.	0.02	-26.	0.09	-0.16
-30.	300.	1500.	4.72	1994.	4.71	1991.	-0.01	-3.	-0.25	-0.15
-30.	300.	8000.	16.95	6562.	16.92	6562.	-0.03	-0.	-0.17	-0.00
-30.	350.	1500.	4.27	2103.	4.26	2100.	-0.01	-3.	-0.19	-0.14
-30.	350.	10500.	19.68	8601.	19.64	8607.	-0.04	6.	-0.22	0.07
-30.	400.	2000.	5.02	2787.	5.00	2784.	-0.02	-3.	-0.35	-0.12
-30.	400.	13000.	22.14	10699.	22.12	10700.	-0.02	1.	-0.10	0.01
-30.	450.	2000.	4.63	2888.	4.62	2883.	-0.01	-5.	-0.18	-0.16
-30.	450.	15000.	23.89	12569.	23.92	12543.	0.03	-26.	0.14	-0.21
-30.	500.	2500.	5.27	3593.	5.27	3585.	-0.00	-8.	-0.09	-0.23
-30.	500.	15000.	23.38	13315.	23.41	13279.	0.03	-36.	0.12	-0.27
-30.	550.	2500.	4.96	3680.	4.96	3671.	-0.00	-9.	-0.05	-0.25
-30.	550.	15000.	22.99	13903.	22.99	13896.	-0.00	-7.	-0.02	-0.05
-40.	300.	2500.	6.16	2277.	6.15	2275.	-0.01	-2.	-0.19	-0.10
-40.	300.	12500.	21.41	7115.	21.37	7118.	-0.04	3.	-0.18	0.04
-40.	350.	2500.	5.58	2403.	5.57	2401.	-0.01	-2.	-0.19	-0.10
-40.	350.	15000.	23.38	8811.	23.36	8814.	-0.02	3.	-0.09	0.04
-40.	400.	3000.	5.99	2916.	5.98	2914.	-0.01	-2.	-0.23	-0.09
-40.	400.	15000.	22.47	9562.	22.48	9557.	0.01	-5.	0.04	-0.06
-40.	450.	3000.	5.52	3016.	5.51	3012.	-0.01	-4.	-0.16	-0.12
-40.	450.	15000.	21.69	10213.	21.72	10192.	0.03	-21.	0.14	-0.20
-40.	500.	3500.	5.91	3536.	5.91	3530.	0.00	-6.	0.00	-0.16
-40.	500.	15000.	21.07	10743.	21.08	10724.	0.01	-19.	0.06	-0.18

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	6.30	4055.	6.30	4048.	0.00	-7.	0.02	-0.17
-40.	550.	15000.	20.58	11164.	20.55	11165.	-0.03	1.	-0.14	0.01
-45.	300.	2500.	5.78	1979.	5.77	1977.	-0.01	-2.	-0.11	-0.09
-45.	300.	15000.	23.66	7152.	23.62	7154.	-0.04	2.	-0.17	0.03
-45.	350.	3000.	6.12	2420.	6.11	2419.	-0.01	-1.	-0.22	-0.06
-45.	350.	15000.	22.58	7886.	22.56	7887.	-0.02	1.	-0.08	0.02
-45.	400.	3000.	5.58	2518.	5.57	2516.	-0.01	-2.	-0.19	-0.08
-45.	400.	15000.	21.61	8528.	21.62	8522.	0.01	-6.	0.04	-0.07
-45.	450.	3500.	5.90	2965.	5.90	2962.	-0.00	-3.	-0.08	-0.11
-45.	450.	15000.	20.78	9078.	20.81	9061.	0.03	-17.	0.13	-0.19
-45.	500.	4000.	6.20	3414.	6.21	3409.	0.01	-5.	0.11	-0.14
-45.	500.	15000.	20.12	9523.	20.13	9508.	0.01	-15.	0.03	-0.16
-45.	550.	4500.	6.52	3861.	6.52	3855.	0.00	-6.	0.06	-0.15
-45.	550.	15000.	19.59	9875.	19.56	9877.	-0.03	2.	-0.16	0.02
-60.	300.	4000.	7.55	1802.	7.54	1801.	-0.01	-1.	-0.14	-0.06
-60.	300.	15000.	21.96	4732.	21.93	4733.	-0.03	1.	-0.14	0.02
-60.	350.	4000.	6.82	1896.	6.81	1895.	-0.01	-1.	-0.20	-0.07
-60.	350.	15000.	20.74	5172.	20.72	5172.	-0.02	-0.	-0.09	-0.01
-60.	400.	5000.	7.60	2378.	7.59	2377.	-0.01	-1.	-0.19	-0.03
-60.	400.	15000.	19.65	5546.	19.66	5542.	0.01	-4.	0.06	-0.08
-60.	450.	5500.	7.65	2664.	7.64	2662.	-0.01	-2.	-0.15	-0.06
-60.	450.	15000.	18.73	5859.	18.76	5849.	0.03	-10.	0.13	-0.17
-60.	500.	6500.	8.32	3156.	8.34	3152.	0.02	-4.	0.21	-0.14
-60.	500.	15000.	17.99	6107.	17.99	6101.	0.00	-6.	0.02	-0.11
-60.	550.	7000.	8.45	3436.	8.45	3432.	-0.00	-4.	-0.00	-0.12
-60.	550.	15000.	17.41	6301.	17.36	6305.	-0.05	4.	-0.30	0.07

WEAPON COEFFICIENTS FOR IDNO 5

CFORM1 = 0.0039077   DKG1 = 0.0063648   DM1 = 0.0   VMUZ = 0.   DS = 0.0
CFORM2 = 0.0   DKG2 = 0.0   DM2 = 0.0   FN = 0.   SL = 0.0

ITYPE = -1   IREF = 2   VE = 0.0
IBOTH = 1   DMAX = 3.00   DTI = 1.00

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
10.	300.	500.	8.97	4134.	8.95	4111.	-0.02	-23.	-0.20	-0.55
10.	300.	3000.	17.17	7443.	17.18	7402.	0.01	-41.	0.06	-0.55
10.	350.	500.	9.61	5075.	9.59	5048.	-0.02	-27.	-0.22	-0.54
10.	350.	3000.	17.75	8769.	17.76	8726.	0.01	-43.	0.04	-0.49
10.	400.	500.	10.25	6066.	10.23	6040.	-0.02	-26.	-0.15	-0.43
10.	400.	3000.	18.33	10093.	18.33	10056.	0.00	-37.	0.02	-0.37
10.	450.	500.	10.90	7093.	10.88	7067.	-0.02	-26.	-0.19	-0.36
10.	450.	3000.	18.91	11396.	18.90	11370.	-0.01	-26.	-0.03	-0.23
10.	500.	500.	11.54	8129.	11.51	8103.	-0.03	-26.	-0.25	-0.32
10.	500.	3000.	19.47	12655.	19.46	12637.	-0.01	-18.	-0.06	-0.14
10.	550.	500.	12.15	9139.	12.11	9102.	-0.04	-37.	-0.33	-0.41
10.	550.	3000.	20.00	13831.	19.98	13810.	-0.02	-21.	-0.09	-0.15
0.	300.	500.	5.67	2727.	5.66	2714.	-0.01	-13.	-0.19	-0.49
0.	300.	15000.	33.69	13368.	33.70	13308.	0.01	-60.	0.03	-0.45
0.	350.	500.	5.69	3163.	5.67	3147.	-0.02	-16.	-0.33	-0.50
0.	350.	15000.	33.91	15322.	33.90	15273.	-0.01	-49.	-0.02	-0.32
0.	400.	500.	5.70	3592.	5.68	3574.	-0.02	-18.	-0.29	-0.49
0.	400.	15000.	34.14	17176.	34.12	17153.	-0.02	-23.	-0.05	-0.13
0.	450.	500.	5.72	4013.	5.70	3991.	-0.02	-22.	-0.40	-0.54
0.	450.	15000.	34.39	18916.	34.36	18909.	-0.03	-7.	-0.10	-0.04
0.	500.	500.	5.74	4421.	5.71	4392.	-0.03	-29.	-0.48	-0.65
0.	500.	15000.	34.64	20504.	34.60	20501.	-0.04	-3.	-0.12	-0.01
0.	550.	500.	5.76	4811.	5.73	4766.	-0.03	-45.	-0.51	-0.93
0.	550.	15000.	34.88	21898.	34.85	21887.	-0.03	-11.	-0.09	-0.05
-10.	300.	500.	3.55	1712.	3.54	1704.	-0.01	-8.	-0.33	-0.49
-10.	300.	3500.	12.93	5753.	12.95	5735.	0.02	-18.	0.14	-0.31
-10.	350.	500.	3.31	1859.	3.30	1848.	-0.01	-11.	-0.31	-0.57
-10.	350.	4500.	14.80	7444.	14.82	7424.	0.02	-20.	0.11	-0.26
-10.	400.	500.	3.10	1982.	3.08	1969.	-0.02	-13.	-0.49	-0.64
-10.	400.	5500.	16.51	9182.	16.52	9169.	0.01	-13.	0.04	-0.15

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	5.01	3489.	4.99	3476.	-0.02	-13.	-0.33	-0.37
-10.	450.	6500.	18.12	10944.	18.12	10934.	-0.00	-10.	-0.00	-0.09
-10.	500.	1000.	4.79	3682.	4.78	3665.	-0.01	-17.	-0.27	-0.46
-10.	500.	7500.	19.67	12696.	19.66	12689.	-0.01	-7.	-0.07	-0.05
-10.	550.	1000.	4.60	3849.	4.59	3824.	-0.01	-25.	-0.26	-0.64
-10.	550.	8500.	21.19	14396.	21.17	14380.	-0.02	-16.	-0.08	-0.11
-20.	300.	1000.	4.28	1958.	4.28	1953.	-0.00	-5.	-0.01	-0.28
-20.	300.	5000.	13.95	5863.	13.97	5847.	0.02	-16.	0.18	-0.27
-20.	350.	1000.	3.92	2087.	3.92	2080.	-0.00	-7.	-0.08	-0.33
-20.	350.	6500.	16.10	7625.	16.11	7610.	0.01	-15.	0.09	-0.20
-20.	400.	1000.	3.61	2189.	3.60	2181.	-0.01	-8.	-0.23	-0.35
-20.	400.	8000.	18.05	9429.	18.06	9419.	0.01	-10.	0.03	-0.11
-20.	450.	1500.	4.75	3168.	4.74	3160.	-0.01	-8.	-0.20	-0.25
-20.	450.	9500.	19.89	11252.	19.87	11249.	-0.02	-3.	-0.09	-0.02
-20.	500.	1500.	4.46	3285.	4.45	3274.	-0.01	-11.	-0.21	-0.34
-20.	500.	11000.	21.67	13060.	21.65	13053.	-0.02	-7.	-0.08	-0.06
-20.	550.	1500.	4.20	3380.	4.20	3365.	0.00	-15.	0.10	-0.45
-20.	550.	12500.	23.43	14808.	23.43	14791.	-0.00	-17.	-0.02	-0.11
-30.	300.	1500.	4.75	1990.	4.74	1986.	-0.01	-4.	-0.14	-0.22
-30.	300.	7500.	16.45	6228.	16.47	6213.	0.02	-15.	0.12	-0.23
-30.	350.	1500.	4.30	2099.	4.30	2095.	-0.00	-4.	-0.08	-0.21
-30.	350.	10000.	19.39	8217.	19.39	8204.	0.00	-13.	0.02	-0.15
-30.	400.	2000.	5.06	2780.	5.06	2775.	-0.00	-5.	-0.06	-0.18
-30.	400.	12000.	21.40	9991.	21.39	9983.	-0.01	-8.	-0.06	-0.08
-30.	450.	2000.	4.68	2880.	4.67	2875.	-0.01	-5.	-0.11	-0.18
-30.	450.	14500.	23.96	12028.	23.94	12025.	-0.02	-3.	-0.09	-0.02
-30.	500.	2500.	5.34	3579.	5.34	3572.	-0.00	-7.	-0.04	-0.18
-30.	500.	15000.	24.03	13016.	24.03	13004.	-0.00	-12.	-0.00	-0.09
-30.	550.	2500.	5.02	3669.	5.03	3659.	0.01	-10.	0.15	-0.27
-30.	550.	15000.	23.59	13635.	23.59	13620.	0.00	-15.	0.01	-0.11
-40.	300.	2500.	6.21	2270.	6.21	2267.	-0.00	-3.	-0.00	-0.13
-40.	300.	12000.	21.22	6835.	21.24	6821.	0.02	-14.	0.07	-0.21
-40.	350.	2500.	5.63	2397.	5.63	2393.	-0.00	-4.	-0.00	-0.15
-40.	350.	15000.	23.98	8653.	23.97	8644.	-0.01	-9.	-0.04	-0.10
-40.	400.	3000.	6.06	2907.	6.05	2904.	-0.01	-3.	-0.11	-0.12
-40.	400.	15000.	23.10	9382.	23.08	9378.	-0.02	-4.	-0.07	-0.04
-40.	450.	3000.	5.59	3007.	5.59	3003.	-0.00	-4.	-0.05	-0.13
-40.	450.	15000.	22.32	10014.	22.31	10010.	-0.01	-4.	-0.03	-0.04
-40.	500.	3500.	6.01	3523.	6.00	3518.	-0.01	-5.	-0.13	-0.13
-40.	500.	15000.	21.65	10555.	21.66	10543.	0.01	-12.	0.05	-0.12

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	6.40	4040.	6.41	4033.	0.01	-7.	0.13	-0.17
-40.	550.	15000.	21.10	10996.	21.11	10987.	0.01	-9.	0.06	-0.09
-45.	300.	2500.	5.83	1974.	5.83	1972.	-0.00	-2.	-0.00	-0.12
-45.	300.	15000.	24.21	7035.	24.21	7022.	0.00	-13.	0.02	-0.19
-45.	350.	3000.	6.18	2414.	6.18	2411.	-0.00	-3.	-0.00	-0.14
-45.	350.	15000.	23.16	7753.	23.15	7746.	-0.01	-7.	-0.03	-0.09
-45.	400.	3000.	5.64	2512.	5.64	2509.	0.00	-3.	0.01	-0.13
-45.	400.	15000.	22.22	8378.	22.21	8375.	-0.01	-3.	-0.06	-0.04
-45.	450.	3500.	5.99	2955.	5.98	2952.	-0.01	-3.	-0.14	-0.09
-45.	450.	15000.	21.39	8916.	21.38	8912.	-0.01	-4.	-0.04	-0.04
-45.	500.	4000.	6.31	3402.	6.31	3398.	-0.00	-4.	-0.03	-0.13
-45.	500.	15000.	20.67	9373.	20.68	9362.	0.01	-11.	0.06	-0.12
-45.	550.	4500.	6.63	3848.	6.64	3842.	0.01	-6.	0.14	-0.17
-45.	550.	15000.	20.09	9742.	20.10	9735.	0.01	-7.	0.03	-0.07
-60.	300.	4000.	7.63	1796.	7.64	1794.	0.01	-2.	0.08	-0.11
-60.	300.	15000.	22.49	4664.	22.49	4657.	0.00	-7.	0.01	-0.15
-60.	350.	4000.	6.90	1890.	6.90	1888.	-0.00	-2.	-0.01	-0.09
-60.	350.	15000.	21.28	5097.	21.28	5093.	-0.00	-4.	-0.01	-0.08
-60.	400.	5000.	7.72	2369.	7.71	2368.	-0.01	-1.	-0.09	-0.05
-60.	400.	15000.	20.22	5465.	20.20	5463.	-0.02	-2.	-0.08	-0.04
-60.	450.	5500.	7.79	2653.	7.78	2652.	-0.01	-1.	-0.15	-0.04
-60.	450.	15000.	19.28	5775.	19.28	5772.	-0.00	-3.	-0.01	-0.05
-60.	500.	6500.	8.51	3140.	8.51	3138.	-0.00	-2.	-0.04	-0.08
-60.	500.	15000.	18.48	6033.	18.50	6027.	0.02	-6.	0.08	-0.11
-60.	550.	7000.	8.62	3421.	8.63	3417.	0.01	-4.	0.08	-0.12
-60.	550.	15000.	17.84	6238.	17.84	6235.	-0.00	-3.	-0.01	-0.05

WEAPON COEFFICIENTS FOR IDNO 6

CFORM1 = 0.0	DKG1 = 0.0212660	DM1 = 0.0	VMUZ = 0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN = 0.	SL = 0.0
ITYPE = -1	IREF = 4	VE = 0.0		
IBOTH = 1	DMAX = 2.00	DTI = 1.00		

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	300.	500.	6.02	2382.	5.69	2691.	-0.33	309.	-5.40	12.98
0.	300.	1500.	10.91	3714.	10.03	4521.	-0.88	807.	-8.07	21.72
0.	350.	500.	6.08	2711.	5.71	3116.	-0.37	405.	-6.03	14.93
0.	350.	2000.	12.94	4642.	11.72	5944.	-1.22	1302.	-9.46	28.06
0.	400.	500.	6.13	3023.	5.73	3534.	-0.40	511.	-6.50	16.90
0.	400.	2000.	13.08	5106.	11.78	6704.	-1.30	1598.	-9.95	31.30
0.	450.	500.	6.18	3321.	5.75	3946.	-0.43	625.	-6.97	18.81
0.	450.	2500.	14.97	5972.	13.32	8218.	-1.65	2246.	-11.00	37.60
0.	500.	500.	6.23	3606.	5.77	4351.	-0.46	745.	-7.43	20.67
0.	500.	2500.	15.10	6397.	13.40	9004.	-1.70	2607.	-11.29	40.75
0.	550.	500.	6.27	3879.	5.78	4751.	-0.49	872.	-7.75	22.47
0.	550.	2500.	15.22	6393.	13.47	9768.	-1.75	3375.	-11.52	52.79
-10.	300.	500.	3.85	1621.	3.57	1701.	-0.28	80.	-7.33	4.96
-10.	300.	2500.	12.18	3911.	10.64	4682.	-1.54	771.	-12.67	19.71
-10.	350.	500.	3.64	1761.	3.33	1847.	-0.31	86.	-8.46	4.87
-10.	350.	3000.	13.65	4689.	11.66	5818.	-1.99	1129.	-14.61	24.07
-10.	400.	500.	3.44	1881.	3.12	1969.	-0.32	88.	-9.33	4.68
-10.	400.	3000.	13.53	5100.	11.39	6407.	-2.14	1307.	-15.83	25.62
-10.	450.	1000.	5.83	3131.	5.06	3458.	-0.77	327.	-13.20	10.45
-10.	450.	3500.	14.97	5843.	12.35	7594.	-2.62	1751.	-17.47	29.96
-10.	500.	1000.	5.65	3309.	4.84	3654.	-0.81	345.	-14.40	10.42
-10.	500.	4000.	16.37	6555.	13.27	8801.	-3.10	2246.	-18.94	34.26
-10.	550.	1000.	5.48	3469.	4.63	3828.	-0.85	359.	-15.55	10.34
-10.	550.	4500.	17.73	7239.	14.14	10022.	-3.59	2783.	-20.23	38.45
-20.	300.	1000.	4.80	1856.	4.32	1948.	-0.48	92.	-9.98	4.96
-20.	300.	3500.	13.23	3909.	11.11	4633.	-2.12	724.	-16.05	18.51
-20.	350.	1000.	4.45	1985.	3.96	2076.	-0.49	91.	-11.01	4.59
-20.	350.	4000.	14.31	4572.	11.69	5555.	-2.62	983.	-18.34	21.50
-20.	400.	1000.	4.15	2090.	3.65	2179.	-0.50	89.	-12.15	4.24
-20.	400.	4500.	15.38	5218.	12.23	6493.	-3.15	1275.	-20.46	24.44

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-20.	450.	1500.	5.72	2940.	4.81	3150.	-0.91	210.	-15.90	7.14
-20.	450.	5000.	16.44	5844.	12.76	7443.	-3.68	1599.	-22.38	27.37
-20.	500.	1500.	5.43	3063.	4.51	3269.	-0.92	206.	-17.00	6.73
-20.	500.	5500.	17.49	6452.	13.27	8403.	-4.22	1951.	-24.14	30.23
-20.	550.	1500.	5.16	3169.	4.23	3369.	-0.93	200.	-17.94	6.31
-20.	550.	6000.	18.54	7042.	13.76	9369.	-4.78	2327.	-25.77	33.04
-30.	300.	1500.	5.44	1889.	4.80	1981.	-0.64	92.	-11.85	4.85
-30.	300.	4500.	14.23	3744.	11.56	4413.	-2.67	669.	-18.78	17.88
-30.	350.	1500.	4.99	2003.	4.35	2090.	-0.64	87.	-12.84	4.35
-30.	350.	5500.	16.29	4516.	12.73	5505.	-3.56	989.	-21.83	21.89
-30.	400.	2000.	6.13	2606.	5.14	2765.	-0.99	159.	-16.21	6.12
-30.	400.	6500.	18.29	5264.	13.81	6622.	-4.48	1358.	-24.51	25.80
-30.	450.	2000.	5.74	2715.	4.75	2868.	-0.99	153.	-17.31	5.62
-30.	450.	7000.	19.04	5800.	14.00	7412.	-5.04	1612.	-26.46	27.79
-30.	500.	2500.	6.81	3319.	5.42	3564.	-1.39	245.	-20.46	7.38
-30.	500.	8000.	20.99	6509.	14.98	8562.	-6.01	2053.	-28.63	31.54
-30.	550.	2500.	6.46	3425.	5.07	3659.	-1.39	234.	-21.54	6.85
-30.	550.	8500.	21.75	7015.	15.16	9358.	-6.59	2343.	-30.28	33.40
-40.	300.	2500.	7.14	2117.	6.30	2258.	-0.84	141.	-11.83	6.65
-40.	300.	6500.	17.70	3737.	13.74	4526.	-3.96	789.	-22.37	21.12
-40.	350.	2500.	6.83	2249.	5.72	2385.	-1.11	136.	-16.30	6.04
-40.	350.	8000.	20.52	4501.	15.25	5663.	-5.27	1162.	-25.70	25.81
-40.	400.	3000.	7.63	2696.	6.16	2891.	-1.47	195.	-19.22	7.24
-40.	400.	9000.	22.13	5114.	15.90	6584.	-6.23	1470.	-28.15	28.73
-40.	450.	3000.	7.14	2808.	5.69	2993.	-1.45	185.	-20.36	6.60
-40.	450.	10000.	23.74	5711.	16.52	7514.	-7.22	1803.	-30.40	31.57
-40.	500.	3500.	7.93	3256.	6.10	3509.	-1.83	253.	-23.11	7.77
-40.	500.	11000.	25.33	6294.	17.12	8452.	-8.21	2158.	-32.41	34.28
-40.	550.	4000.	8.70	3699.	6.47	4030.	-2.23	331.	-25.64	8.94
-40.	550.	12000.	26.91	6866.	17.70	9396.	-9.21	2530.	-34.23	36.85
-45.	300.	2500.	6.94	1859.	5.91	1965.	-1.03	106.	-14.86	5.69
-45.	300.	8500.	21.64	3829.	16.24	4808.	-5.40	979.	-24.94	25.57
-45.	350.	3000.	7.63	2250.	6.28	2401.	-1.35	151.	-17.65	6.70
-45.	350.	9500.	23.08	4400.	16.73	5643.	-6.35	1243.	-27.52	28.26
-45.	400.	3000.	7.07	2358.	5.74	2500.	-1.33	142.	-18.83	6.03
-45.	400.	11000.	25.60	5061.	17.87	6688.	-7.73	1627.	-30.19	32.15
-45.	450.	3500.	7.77	2749.	6.09	2942.	-1.68	193.	-21.57	7.02
-45.	450.	12500.	28.07	5709.	18.94	7751.	-9.13	2042.	-32.53	35.77
-45.	500.	4000.	8.48	3138.	6.41	3388.	-2.07	250.	-24.40	7.98
-45.	500.	13500.	29.47	6244.	19.34	8614.	-10.13	2370.	-34.37	37.95

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	550.	4500.	9.14	3522.	6.70	3838.	-2.44	316.	-26.69	8.98
-45.	550.	15000.	31.86	6874.	20.32	9702.	-11.54	2828.	-36.22	41.14
-60.	300.	4000.	9.56	1650.	7.77	1785.	-1.79	135.	-18.73	8.18
-60.	300.	15000.	33.56	3328.	23.24	4553.	-10.32	1225.	-30.74	36.81
-60.	350.	4000.	8.79	1752.	7.03	1880.	-1.76	128.	-20.02	7.30
-60.	350.	15000.	32.52	3650.	22.00	4986.	-10.52	1336.	-32.34	36.61
-60.	400.	5000.	10.31	2154.	7.89	2355.	-2.42	201.	-23.52	9.33
-60.	400.	15000.	31.56	3937.	20.86	5363.	-10.70	1426.	-33.90	36.22
-60.	450.	5500.	10.77	2402.	7.95	2639.	-2.82	237.	-26.17	9.86
-60.	450.	15000.	30.68	4195.	19.81	5691.	-10.87	1496.	-35.43	35.66
-60.	500.	6500.	12.28	2793.	8.66	3125.	-3.62	332.	-29.44	11.90
-60.	500.	15000.	29.85	4429.	18.84	5978.	-11.01	1549.	-36.89	34.98
-60.	550.	7000.	12.71	3035.	8.70	3413.	-4.01	378.	-31.52	12.45
-60.	550.	15000.	29.08	4642.	17.94	6230.	-11.14	1588.	-38.30	34.21

WEAPON COEFFICIENTS FOR IDNO 7

CFORM1 = 2.5703993 DKG1 = 0.0 DM1 = 0.0 VMUZ = 0. DS = 0.0
CFORM2 = 0.0 DKG2 = 0.0 DM2 = 0.0 FN = 0. SL = 0.0

ITYPE = -1 IREF = 1 VE = 0.0
IBOTH = 1 DMAX = 5.00 DTI = 3.00

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.95	4342.	8.93	4360.	-0.02	18.	-0.23	0.41
10.	300.	3000.	16.85	7990.	16.78	8061.	-0.07	71.	-0.39	0.88
10.	350.	500.	9.61	5402.	9.59	5434.	-0.02	32.	-0.23	0.59
10.	350.	3000.	17.41	9549.	17.35	9652.	-0.06	103.	-0.37	1.07
10.	400.	500.	10.29	6560.	10.27	6612.	-0.02	52.	-0.23	0.80
10.	400.	3000.	17.99	11168.	17.92	11312.	-0.07	144.	-0.39	1.29
10.	450.	500.	10.98	7815.	10.96	7894.	-0.02	79.	-0.17	1.01
10.	450.	3000.	18.57	12845.	18.50	13040.	-0.07	195.	-0.37	1.52
10.	500.	500.	11.69	9163.	11.67	9278.	-0.02	115.	-0.15	1.25
10.	500.	3000.	19.17	14577.	19.09	14835.	-0.08	258.	-0.40	1.77
10.	550.	500.	12.41	10598.	12.39	10761.	-0.02	163.	-0.12	1.54
10.	550.	3000.	19.77	16360.	19.69	16690.	-0.08	330.	-0.40	2.02
0.	300.	1000.	7.95	3926.	7.92	3935.	-0.03	9.	-0.39	0.23
0.	300.	15000.	31.62	14707.	31.32	14883.	-0.30	176.	-0.94	1.20
0.	350.	1000.	7.96	4568.	7.92	4580.	-0.04	12.	-0.44	0.26
0.	350.	15000.	31.71	17053.	31.39	17282.	-0.32	229.	-1.00	1.34
0.	400.	1000.	7.97	5207.	7.93	5222.	-0.04	15.	-0.50	0.29
0.	400.	15000.	31.81	19366.	31.48	19654.	-0.33	288.	-1.03	1.49
0.	450.	1000.	7.98	5842.	7.94	5861.	-0.04	19.	-0.55	0.32
0.	450.	15000.	31.93	21643.	31.60	21995.	-0.33	352.	-1.02	1.62
0.	500.	1000.	7.99	6473.	7.94	6497.	-0.05	24.	-0.61	0.36
0.	500.	15000.	32.11	23873.	31.78	24285.	-0.33	412.	-1.02	1.73
0.	550.	1000.	8.00	7101.	7.95	7129.	-0.05	28.	-0.67	0.40
0.	550.	15000.	32.37	25937.	32.05	26395.	-0.32	458.	-0.98	1.77
-10.	300.	1000.	5.67	2776.	5.64	2776.	-0.03	-0.	-0.50	-0.02
-10.	300.	3500.	12.50	5991.	12.43	6018.	-0.07	27.	-0.56	0.45
-10.	350.	1000.	5.38	3067.	5.35	3066.	-0.03	-1.	-0.58	-0.04
-10.	350.	5000.	15.10	8328.	15.00	8382.	-0.10	54.	-0.69	0.64
-10.	400.	1000.	5.11	3324.	5.08	3321.	-0.03	-3.	-0.65	-0.08
-10.	400.	6000.	16.51	10289.	16.37	10370.	-0.14	81.	-0.86	0.78

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	4.86	3551.	4.82	3546.	-0.04	-5.	-0.76	-0.14
-10.	450.	7500.	18.55	12836.	18.37	12960.	-0.18	124.	-0.97	0.97
-10.	500.	1000.	4.63	3751.	4.59	3744.	-0.04	-7.	-0.91	-0.19
-10.	500.	9000.	20.41	15479.	20.18	15652.	-0.23	173.	-1.13	1.12
-10.	550.	1000.	4.41	3928.	4.37	3918.	-0.04	-10.	-0.92	-0.24
-10.	550.	11000.	22.88	18624.	22.62	18850.	-0.26	226.	-1.13	1.21
-20.	300.	1500.	5.74	2682.	5.71	2682.	-0.03	0.	-0.44	0.01
-20.	300.	5500.	14.22	6466.	14.12	6496.	-0.10	30.	-0.69	0.47
-20.	350.	1500.	5.31	2891.	5.28	2890.	-0.03	-1.	-0.52	-0.04
-20.	350.	7500.	16.74	8757.	16.59	8812.	-0.15	55.	-0.90	0.63
-20.	400.	1500.	4.93	3062.	4.90	3060.	-0.03	-2.	-0.65	-0.06
-20.	400.	9500.	18.89	11151.	18.69	11238.	-0.20	87.	-1.04	0.78
-20.	450.	1500.	4.59	3204.	4.56	3200.	-0.03	-4.	-0.73	-0.11
-20.	450.	11500.	20.81	13643.	20.56	13767.	-0.25	124.	-1.19	0.91
-20.	500.	1500.	4.28	3322.	4.25	3316.	-0.03	-6.	-0.66	-0.17
-20.	500.	14000.	23.24	16566.	22.95	16730.	-0.29	164.	-1.25	0.99
-20.	550.	2000.	5.14	4351.	5.09	4349.	-0.05	-2.	-0.88	-0.05
-20.	550.	15000.	24.08	18292.	23.75	18491.	-0.33	199.	-1.37	1.09
-30.	300.	1500.	4.64	2004.	4.62	2003.	-0.02	-1.	-0.51	-0.05
-30.	300.	8500.	16.95	7041.	16.81	7079.	-0.14	38.	-0.85	0.54
-30.	350.	2000.	5.34	2679.	5.31	2679.	-0.03	0.	-0.51	0.00
-30.	350.	11500.	19.87	9490.	19.65	9555.	-0.22	65.	-1.08	0.69
-30.	400.	2000.	4.90	2805.	4.87	2803.	-0.03	-2.	-0.67	-0.06
-30.	400.	14500.	22.39	12047.	22.11	12144.	-0.28	97.	-1.24	0.80
-30.	450.	2000.	4.51	2905.	4.48	2902.	-0.03	-3.	-0.65	-0.09
-30.	450.	15000.	22.17	13291.	21.88	13398.	-0.29	107.	-1.29	0.81
-30.	500.	2500.	5.09	3622.	5.05	3620.	-0.04	-2.	-0.80	-0.06
-30.	500.	15000.	21.55	14155.	21.25	14269.	-0.30	114.	-1.39	0.80
-30.	550.	2500.	4.75	3714.	4.71	3711.	-0.04	-3.	-0.90	-0.08
-30.	550.	15000.	21.10	14851.	20.77	14980.	-0.33	129.	-1.56	0.87
-40.	300.	2500.	6.03	2292.	6.00	2293.	-0.03	1.	-0.56	0.05
-40.	300.	13500.	21.41	7767.	21.18	7817.	-0.23	50.	-1.09	0.64
-40.	350.	2500.	5.45	2417.	5.42	2417.	-0.03	0.	-0.54	0.02
-40.	350.	15000.	21.92	9206.	21.66	9269.	-0.26	63.	-1.18	0.69
-40.	400.	3000.	5.82	2937.	5.78	2937.	-0.04	0.	-0.66	0.01
-40.	400.	15000.	20.94	9999.	20.67	10067.	-0.27	68.	-1.27	0.68
-40.	450.	3000.	5.35	3036.	5.31	3035.	-0.04	-1.	-0.71	-0.02
-40.	450.	15000.	20.07	10699.	19.80	10768.	-0.27	69.	-1.36	0.65
-40.	500.	3500.	5.68	3565.	5.63	3566.	-0.05	1.	-0.82	0.02
-40.	500.	15000.	19.34	11299.	19.06	11371.	-0.28	72.	-1.45	0.64

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	5.97	4100.	5.92	4102.	-0.05	2.	-0.92	0.04
-40.	550.	15000.	18.80	11773.	18.49	11855.	-0.31	82.	-1.64	0.70
-45.	300.	2500.	5.67	1991.	5.63	1991.	-0.04	-0.	-0.63	-0.01
-45.	300.	15000.	22.29	7448.	22.04	7497.	-0.25	49.	-1.10	0.65
-45.	350.	3000.	5.97	2436.	5.93	2437.	-0.04	1.	-0.68	0.05
-45.	350.	15000.	21.15	8215.	20.90	8268.	-0.25	53.	-1.18	0.65
-45.	400.	3000.	5.43	2533.	5.39	2533.	-0.04	0.	-0.66	0.01
-45.	400.	15000.	20.12	8888.	19.86	8943.	-0.26	55.	-1.28	0.62
-45.	450.	3500.	5.71	2985.	5.67	2986.	-0.04	1.	-0.75	0.02
-45.	450.	15000.	19.21	9474.	18.95	9530.	-0.26	56.	-1.36	0.60
-45.	500.	4000.	5.95	3443.	5.90	3444.	-0.05	1.	-0.85	0.02
-45.	500.	15000.	18.45	9971.	18.18	10029.	-0.27	58.	-1.48	0.58
-45.	550.	4500.	6.17	3904.	6.11	3906.	-0.06	2.	-1.00	0.04
-45.	550.	15000.	17.87	10361.	17.57	10427.	-0.30	66.	-1.66	0.63
-60.	300.	4000.	7.35	1816.	7.31	1818.	-0.04	2.	-0.58	0.10
-60.	300.	15000.	20.67	4901.	20.43	4928.	-0.24	27.	-1.14	0.56
-60.	350.	4000.	6.63	1909.	6.58	1910.	-0.05	1.	-0.71	0.05
-60.	350.	15000.	19.41	5353.	19.17	5381.	-0.24	28.	-1.23	0.53
-60.	400.	5000.	7.33	2399.	7.27	2401.	-0.06	2.	-0.79	0.08
-60.	400.	15000.	18.28	5738.	18.04	5767.	-0.24	29.	-1.31	0.50
-60.	450.	5500.	7.33	2689.	7.26	2691.	-0.07	2.	-0.92	0.09
-60.	450.	15000.	17.29	6065.	17.05	6093.	-0.24	28.	-1.37	0.46
-60.	500.	6500.	7.88	3193.	7.80	3197.	-0.08	4.	-1.05	0.11
-60.	500.	15000.	16.48	6334.	16.23	6363.	-0.25	29.	-1.51	0.45
-60.	550.	7000.	7.89	3485.	7.80	3489.	-0.09	4.	-1.19	0.11
-60.	550.	15000.	15.86	6543.	15.58	6576.	-0.28	33.	-1.78	0.50

WEAPON COEFFICIENTS FOR IDNO 8

CFORM1 = 0.0	DKG1 = 0.0097670	DM1 = 0.0	VMUZ =	0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN =	0.	SL = 0.0
ITYPE = -1	IREF = 4	VE = 0.0			
IBOTH = 1	DMAX = 3.00	DTI = 2.00			

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.96	4252.	8.94	4244.	-0.02	-8.	-0.18	-0.18
10.	300.	3000.	16.99	7752.	16.97	7746.	-0.02	-6.	-0.11	-0.08
10.	350.	500.	9.61	5260.	9.59	5249.	-0.02	-11.	-0.18	-0.21
10.	350.	3000.	17.56	9206.	17.55	9199.	-0.01	-7.	-0.08	-0.08
10.	400.	500.	10.28	6347.	10.26	6334.	-0.02	-13.	-0.22	-0.21
10.	400.	3000.	18.14	10697.	18.12	10687.	-0.02	-10.	-0.09	-0.09
10.	450.	500.	10.95	7508.	10.93	7491.	-0.02	-17.	-0.18	-0.23
10.	450.	3000.	18.73	12219.	18.71	12207.	-0.02	-12.	-0.12	-0.10
10.	500.	500.	11.64	8737.	11.61	8717.	-0.03	-20.	-0.23	-0.23
10.	500.	3000.	19.31	13768.	19.29	13754.	-0.02	-14.	-0.09	-0.10
10.	550.	500.	12.33	10027.	12.30	10003.	-0.03	-24.	-0.24	-0.24
10.	550.	3000.	19.90	15340.	19.88	15323.	-0.02	-17.	-0.10	-0.11
0.	300.	1000.	8.00	3874.	7.99	3869.	-0.01	-5.	-0.07	-0.13
0.	300.	15000.	32.46	14132.	32.42	14123.	-0.04	-9.	-0.11	-0.06
0.	350.	1000.	8.02	4498.	8.01	4491.	-0.01	-7.	-0.12	-0.16
0.	350.	15000.	32.59	16312.	32.56	16301.	-0.03	-11.	-0.10	-0.07
0.	400.	1000.	8.04	5116.	8.03	5107.	-0.01	-9.	-0.16	-0.18
0.	400.	15000.	32.73	18442.	32.69	18430.	-0.04	-12.	-0.11	-0.07
0.	450.	1000.	8.06	5729.	8.04	5716.	-0.02	-13.	-0.20	-0.22
0.	450.	15000.	32.87	20524.	32.83	20510.	-0.04	-14.	-0.12	-0.07
0.	500.	1000.	8.08	6335.	8.06	6320.	-0.02	-15.	-0.25	-0.24
0.	500.	15000.	33.01	22558.	32.97	22543.	-0.04	-15.	-0.12	-0.07
0.	550.	500.	5.68	4978.	5.66	4957.	-0.02	-21.	-0.34	-0.42
0.	550.	15000.	33.15	24547.	33.11	24531.	-0.04	-16.	-0.12	-0.07
-10.	300.	1000.	5.71	2757.	5.71	2753.	-0.00	-4.	-0.06	-0.13
-10.	300.	3500.	12.68	5890.	12.67	5886.	-0.01	-4.	-0.06	-0.06
-10.	350.	1000.	5.43	3046.	5.42	3041.	-0.01	-5.	-0.18	-0.16
-10.	350.	4500.	14.44	7672.	14.43	7667.	-0.01	-5.	-0.09	-0.06
-10.	400.	1000.	5.16	3302.	5.15	3295.	-0.01	-7.	-0.12	-0.22
-10.	400.	6000.	16.89	10012.	16.88	10005.	-0.01	-7.	-0.06	-0.07

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-10.	450.	1000.	4.92	3527.	4.91	3519.	-0.01	-8.	-0.29	-0.23
-10.	450.	7000.	18.28	11955.	18.26	11947.	-0.02	-8.	-0.10	-0.07
-10.	500.	1000.	4.69	3726.	4.68	3717.	-0.01	-9.	-0.32	-0.24
-10.	500.	8500.	20.33	14439.	20.31	14429.	-0.02	-10.	-0.10	-0.07
-10.	550.	1000.	4.47	3903.	4.46	3893.	-0.01	-10.	-0.22	-0.27
-10.	550.	10000.	22.22	16985.	22.20	16974.	-0.02	-11.	-0.09	-0.07
-20.	300.	1500.	5.80	2668.	5.79	2665.	-0.01	-3.	-0.11	-0.10
-20.	300.	5500.	14.50	6357.	14.49	6353.	-0.01	-4.	-0.09	-0.06
-20.	350.	1500.	5.37	2877.	5.36	2873.	-0.01	-4.	-0.10	-0.14
-20.	350.	7000.	16.38	8213.	16.37	8209.	-0.01	-4.	-0.05	-0.05
-20.	400.	1500.	4.99	3048.	4.98	3044.	-0.01	-4.	-0.14	-0.14
-20.	400.	9000.	18.78	10507.	18.76	10501.	-0.02	-6.	-0.10	-0.06
-20.	450.	1500.	4.65	3191.	4.64	3186.	-0.01	-5.	-0.14	-0.17
-20.	450.	11000.	20.91	12877.	20.89	12869.	-0.02	-8.	-0.10	-0.06
-20.	500.	1500.	4.35	3309.	4.34	3303.	-0.01	-6.	-0.24	-0.17
-20.	500.	13000.	22.85	15319.	22.83	15310.	-0.02	-9.	-0.10	-0.06
-20.	550.	1500.	4.07	3408.	4.07	3402.	-0.00	-6.	-0.05	-0.18
-20.	550.	15000.	24.64	17830.	24.61	17820.	-0.03	-10.	-0.10	-0.06
-30.	300.	1500.	4.68	1998.	4.68	1996.	-0.00	-2.	-0.04	-0.09
-30.	300.	8000.	16.66	6650.	16.65	6647.	-0.01	-3.	-0.08	-0.04
-30.	350.	2000.	5.41	2669.	5.40	2666.	-0.01	-3.	-0.12	-0.11
-30.	350.	10500.	19.24	8751.	19.22	8747.	-0.02	-4.	-0.10	-0.05
-30.	400.	2000.	4.96	2795.	4.96	2792.	-0.00	-3.	-0.04	-0.12
-30.	400.	13500.	22.07	11201.	22.05	11195.	-0.02	-6.	-0.10	-0.05
-30.	450.	2000.	4.58	2896.	4.57	2892.	-0.01	-4.	-0.20	-0.13
-30.	450.	15000.	22.97	12927.	22.95	12920.	-0.02	-7.	-0.11	-0.06
-30.	500.	2500.	5.18	3607.	5.17	3603.	-0.01	-4.	-0.16	-0.12
-30.	500.	15000.	22.22	13803.	22.20	13796.	-0.02	-7.	-0.09	-0.05
-30.	550.	2500.	4.83	3700.	4.83	3696.	-0.00	-4.	-0.04	-0.12
-30.	550.	15000.	21.51	14605.	21.49	14598.	-0.02	-7.	-0.09	-0.05
-40.	300.	2500.	6.10	2283.	6.10	2282.	-0.00	-1.	-0.06	-0.05
-40.	300.	13000.	21.51	7415.	21.49	7412.	-0.02	-3.	-0.09	-0.04
-40.	350.	2500.	5.53	2409.	5.52	2407.	-0.01	-2.	-0.19	-0.08
-40.	350.	15000.	22.70	8988.	22.68	8983.	-0.02	-5.	-0.10	-0.05
-40.	400.	3000.	5.91	2925.	5.91	2923.	-0.00	-2.	-0.02	-0.07
-40.	400.	15000.	21.71	9767.	21.69	9762.	-0.02	-5.	-0.10	-0.05
-40.	450.	3000.	5.44	3025.	5.44	3022.	-0.00	-3.	-0.06	-0.09
-40.	450.	15000.	20.78	10463.	20.76	10458.	-0.02	-5.	-0.09	-0.05
-40.	500.	3500.	5.79	3551.	5.79	3548.	-0.00	-3.	-0.05	-0.08
-40.	500.	15000.	19.91	11085.	19.89	11080.	-0.02	-5.	-0.09	-0.05

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	6.10	4083.	6.09	4080.	-0.01	-3.	-0.11	-0.09
-40.	550.	15000.	19.09	11642.	19.08	11637.	-0.01	-5.	-0.07	-0.04
-45.	300.	2500.	5.73	1984.	5.73	1983.	-0.00	-1.	-0.07	-0.07
-45.	300.	15000.	23.04	7281.	23.02	7278.	-0.02	-3.	-0.10	-0.05
-45.	350.	3000.	6.05	2427.	6.05	2426.	-0.00	-1.	-0.05	-0.06
-45.	350.	15000.	21.91	8034.	21.89	8030.	-0.02	-4.	-0.10	-0.04
-45.	400.	3000.	5.51	2525.	5.51	2523.	-0.00	-2.	-0.02	-0.08
-45.	400.	15000.	20.86	8699.	20.84	8694.	-0.02	-5.	-0.10	-0.05
-45.	450.	3500.	5.81	2974.	5.81	2972.	-0.00	-2.	-0.03	-0.07
-45.	450.	15000.	19.88	9286.	19.86	9281.	-0.02	-5.	-0.09	-0.05
-45.	500.	4000.	6.07	3429.	6.07	3426.	-0.00	-3.	-0.03	-0.08
-45.	500.	15000.	18.97	9805.	18.95	9801.	-0.02	-4.	-0.08	-0.05
-45.	550.	4500.	6.30	3888.	6.30	3885.	-0.00	-3.	-0.05	-0.08
-45.	550.	15000.	18.13	10266.	18.11	10261.	-0.02	-5.	-0.12	-0.05
-60.	300.	4000.	7.47	1808.	7.46	1807.	-0.01	-1.	-0.14	-0.05
-60.	300.	15000.	21.37	4806.	21.35	4804.	-0.02	-2.	-0.10	-0.03
-60.	350.	4000.	6.74	1901.	6.73	1900.	-0.01	-1.	-0.15	-0.04
-60.	350.	15000.	20.10	5254.	20.08	5252.	-0.02	-2.	-0.10	-0.03
-60.	400.	5000.	7.48	2387.	7.47	2386.	-0.01	-1.	-0.10	-0.04
-60.	400.	15000.	18.93	5639.	18.92	5637.	-0.01	-2.	-0.06	-0.04
-60.	450.	5500.	7.49	2676.	7.49	2675.	-0.00	-1.	-0.04	-0.05
-60.	450.	15000.	17.87	5971.	17.86	5969.	-0.01	-2.	-0.07	-0.04
-60.	500.	6500.	8.08	3176.	8.08	3174.	-0.00	-2.	-0.03	-0.06
-60.	500.	15000.	16.90	6257.	16.89	6255.	-0.01	-2.	-0.08	-0.04
-60.	550.	7000.	8.07	3469.	8.06	3467.	-0.01	-2.	-0.09	-0.06
-60.	550.	15000.	16.01	6505.	16.00	6503.	-0.01	-2.	-0.09	-0.03

WEAPON COEFFICIENTS FOR IDNO 9

CFORM1 = 2.0639992	DKG1 = 0.0	DM1 = 0.0	VMUZ =	0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN =	0.	SL = 0.0
ITYPE = -1	IREF = 1	VE = 0.0			
IBOTH = 1	DMAX = 5.00	DTI = 3.00			

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.95	4387.	8.93	4379.	-0.02	-8.	-0.20	-0.18
10.	300.	3000.	16.77	8114.	16.76	8108.	-0.01	-6.	-0.06	-0.07
10.	350.	500.	9.61	5475.	9.59	5464.	-0.02	-11.	-0.18	-0.20
10.	350.	3000.	17.34	9728.	17.32	9721.	-0.02	-7.	-0.11	-0.08
10.	400.	500.	10.30	6672.	10.27	6658.	-0.03	-14.	-0.25	-0.21
10.	400.	3000.	17.91	11418.	17.89	11408.	-0.02	-10.	-0.10	-0.09
10.	450.	500.	11.00	7978.	10.97	7960.	-0.03	-18.	-0.25	-0.23
10.	450.	3000.	18.49	13182.	18.47	13170.	-0.02	-12.	-0.08	-0.09
10.	500.	500.	11.72	9392.	11.69	9370.	-0.03	-22.	-0.27	-0.23
10.	500.	3000.	19.09	15019.	19.07	15005.	-0.02	-14.	-0.12	-0.09
10.	550.	500.	12.45	10911.	12.42	10886.	-0.03	-25.	-0.27	-0.23
10.	550.	3000.	19.69	16927.	19.67	16910.	-0.02	-17.	-0.12	-0.10
10.	600.	500.	13.16	12452.	13.11	12398.	-0.05	-54.	-0.36	-0.43
10.	600.	3000.	20.28	18765.	20.25	18726.	-0.03	-39.	-0.17	-0.21
10.	650.	500.	13.80	13803.	13.73	13705.	-0.07	-98.	-0.51	-0.71
10.	650.	3000.	20.83	20265.	20.78	20200.	-0.05	-65.	-0.22	-0.32
0.	300.	1500.	9.72	4830.	9.71	4825.	-0.01	-5.	-0.13	-0.11
0.	300.	15000.	31.20	15004.	31.17	14995.	-0.03	-9.	-0.09	-0.06
0.	350.	1000.	7.93	4604.	7.92	4595.	-0.01	-9.	-0.17	-0.19
0.	350.	15000.	31.27	17437.	31.23	17427.	-0.04	-11.	-0.12	-0.06
0.	400.	1000.	7.94	5253.	7.92	5242.	-0.02	-11.	-0.24	-0.22
0.	400.	15000.	31.35	19848.	31.31	19836.	-0.04	-12.	-0.11	-0.06
0.	450.	1000.	7.94	5899.	7.93	5886.	-0.01	-13.	-0.18	-0.23
0.	450.	15000.	31.47	22231.	31.43	22216.	-0.04	-15.	-0.13	-0.07
0.	500.	1000.	7.95	6544.	7.93	6527.	-0.02	-17.	-0.25	-0.26
0.	500.	15000.	31.64	24564.	31.61	24548.	-0.03	-16.	-0.11	-0.07
0.	550.	1000.	7.96	7186.	7.93	7166.	-0.03	-20.	-0.32	-0.28
0.	550.	15000.	31.90	26725.	31.87	26701.	-0.03	-24.	-0.10	-0.09
0.	600.	1000.	7.97	7795.	7.95	7757.	-0.02	-38.	-0.30	-0.49
0.	600.	15000.	32.21	28435.	32.17	28413.	-0.04	-22.	-0.11	-0.08

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	NAVAIR 01-1C-1T-1 BALLISTICS TABLES DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
0.	650.	500.	5.65	5948.	5.59	5858.	-0.06	-90.	-1.02	-1.51
0.	650.	15000.	32.51	29805.	32.47	29767.	-0.04	-38.	-0.11	-0.13
-10.	300.	1000.	5.65	2785.	5.64	2780.	-0.01	-5.	-0.25	-0.18
-10.	300.	3500.	12.41	6041.	12.40	6038.	-0.01	-3.	-0.09	-0.06
-10.	350.	1000.	5.35	3077.	5.34	3071.	-0.01	-6.	-0.14	-0.19
-10.	350.	5000.	14.96	8423.	14.94	8418.	-0.02	-5.	-0.11	-0.06
-10.	400.	1000.	5.08	3335.	5.07	3327.	-0.01	-8.	-0.21	-0.23
-10.	400.	6500.	17.11	10924.	17.10	10917.	-0.01	-7.	-0.07	-0.06
-10.	450.	1000.	4.83	3563.	4.82	3553.	-0.01	-10.	-0.29	-0.28
-10.	450.	8000.	19.01	13544.	19.00	13536.	-0.01	-8.	-0.07	-0.06
-10.	500.	1000.	4.60	3764.	4.58	3752.	-0.02	-12.	-0.43	-0.33
-10.	500.	9500.	20.76	16272.	20.73	16263.	-0.03	-9.	-0.12	-0.06
-10.	550.	1500.	5.95	5325.	5.93	5313.	-0.02	-12.	-0.29	-0.22
-10.	550.	11500.	23.14	19500.	23.11	19484.	-0.03	-16.	-0.13	-0.08
-10.	600.	1500.	5.73	5563.	5.72	5543.	-0.01	-20.	-0.23	-0.36
-10.	600.	13000.	24.94	22020.	24.91	21999.	-0.03	-21.	-0.12	-0.10
-10.	650.	1500.	5.56	5761.	5.55	5719.	-0.01	-42.	-0.26	-0.72
-10.	650.	14500.	26.75	24337.	26.73	24292.	-0.02	-45.	-0.07	-0.18
-20.	300.	1500.	5.72	2689.	5.71	2686.	-0.01	-3.	-0.24	-0.12
-20.	300.	5500.	14.09	6520.	14.07	6517.	-0.02	-3.	-0.12	-0.05
-20.	350.	1500.	5.28	2898.	5.27	2894.	-0.01	-4.	-0.12	-0.15
-20.	350.	7500.	16.53	8852.	16.51	8848.	-0.02	-4.	-0.10	-0.04
-20.	400.	1500.	4.90	3069.	4.89	3064.	-0.01	-5.	-0.22	-0.16
-20.	400.	10000.	19.24	11668.	19.22	11663.	-0.02	-5.	-0.11	-0.04
-20.	450.	1500.	4.56	3211.	4.55	3204.	-0.01	-7.	-0.27	-0.20
-20.	450.	12000.	21.04	14226.	21.02	14220.	-0.02	-6.	-0.11	-0.04
-20.	500.	2000.	5.41	4217.	5.40	4210.	-0.01	-7.	-0.21	-0.17
-20.	500.	15000.	23.91	17580.	23.89	17570.	-0.02	-10.	-0.09	-0.06
-20.	550.	2000.	5.09	4363.	5.08	4355.	-0.01	-8.	-0.20	-0.18
-20.	550.	15000.	23.57	18646.	23.54	18632.	-0.03	-14.	-0.11	-0.08
-20.	600.	2000.	4.83	4482.	4.81	4470.	-0.02	-12.	-0.40	-0.27
-20.	600.	15000.	23.33	19492.	23.32	19467.	-0.01	-25.	-0.06	-0.13
-20.	650.	2000.	4.61	4579.	4.60	4553.	-0.01	-26.	-0.20	-0.56
-20.	650.	15000.	23.16	20179.	23.15	20143.	-0.01	-36.	-0.05	-0.18
-30.	300.	2000.	5.83	2526.	5.82	2524.	-0.01	-2.	-0.19	-0.10
-30.	300.	9000.	17.40	7375.	17.38	7372.	-0.02	-3.	-0.10	-0.04
-30.	350.	2000.	5.31	2685.	5.30	2682.	-0.01	-3.	-0.13	-0.12
-30.	350.	12000.	20.13	9869.	20.11	9865.	-0.02	-4.	-0.10	-0.04
-30.	400.	2000.	4.87	2810.	4.86	2806.	-0.01	-4.	-0.26	-0.14
-30.	400.	15000.	22.51	12482.	22.48	12476.	-0.03	-6.	-0.11	-0.05

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.43	3517.	5.42	3513.	-0.01	-4.	-0.15	-0.11
-30.	450.	15000.	21.75	13474.	21.73	13468.	-0.02	-7.	-0.11	-0.05
-30.	500.	2500.	5.05	3629.	5.04	3624.	-0.01	-5.	-0.29	-0.14
-30.	500.	15000.	21.10	14351.	21.07	14345.	-0.03	-6.	-0.12	-0.04
-30.	550.	2500.	4.71	3720.	4.69	3715.	-0.02	-5.	-0.35	-0.14
-30.	550.	15000.	20.59	15082.	20.58	15071.	-0.01	-11.	-0.07	-0.07
-30.	600.	3000.	5.22	4452.	5.20	4444.	-0.02	-8.	-0.38	-0.17
-30.	600.	15000.	20.21	15662.	20.20	15646.	-0.01	-16.	-0.06	-0.10
-30.	650.	3500.	5.71	5181.	5.71	5164.	-0.00	-17.	-0.07	-0.33
-30.	650.	15000.	19.91	16134.	19.89	16116.	-0.02	-18.	-0.12	-0.11
-40.	300.	2500.	5.99	2297.	5.98	2295.	-0.01	-2.	-0.09	-0.08
-40.	300.	14000.	21.60	8040.	21.58	8037.	-0.02	-3.	-0.09	-0.04
-40.	350.	2500.	5.42	2422.	5.41	2419.	-0.01	-3.	-0.19	-0.11
-40.	350.	15000.	21.55	9313.	21.52	9309.	-0.03	-4.	-0.12	-0.04
-40.	400.	3000.	5.78	2943.	5.77	2940.	-0.01	-3.	-0.24	-0.10
-40.	400.	15000.	20.56	10114.	20.53	10110.	-0.03	-4.	-0.14	-0.04
-40.	450.	3000.	5.31	3041.	5.30	3038.	-0.01	-3.	-0.23	-0.10
-40.	450.	15000.	19.67	10818.	19.65	10814.	-0.02	-4.	-0.10	-0.04
-40.	500.	3500.	5.62	3572.	5.61	3569.	-0.01	-3.	-0.09	-0.09
-40.	500.	15000.	18.92	11425.	18.90	11420.	-0.02	-5.	-0.11	-0.04
-40.	550.	4000.	5.91	4109.	5.89	4106.	-0.02	-3.	-0.31	-0.08
-40.	550.	15000.	18.32	11922.	18.30	11914.	-0.02	-8.	-0.09	-0.06
-40.	600.	4500.	6.20	4645.	6.18	4640.	-0.02	-5.	-0.35	-0.10
-40.	600.	15000.	17.85	12315.	17.84	12302.	-0.01	-13.	-0.06	-0.11
-40.	650.	5000.	6.51	5177.	6.50	5165.	-0.01	-12.	-0.12	-0.23
-40.	650.	15000.	17.46	12636.	17.43	12628.	-0.03	-8.	-0.20	-0.07
-45.	300.	2500.	5.63	1994.	5.62	1992.	-0.01	-2.	-0.11	-0.08
-45.	300.	15000.	21.93	7530.	21.91	7527.	-0.02	-3.	-0.08	-0.04
-45.	350.	3000.	5.92	2441.	5.92	2439.	-0.00	-2.	-0.08	-0.07
-45.	350.	15000.	20.79	8304.	20.77	8301.	-0.02	-3.	-0.11	-0.03
-45.	400.	3000.	5.39	2537.	5.38	2535.	-0.01	-2.	-0.17	-0.07
-45.	400.	15000.	19.75	8982.	19.73	8978.	-0.02	-4.	-0.13	-0.04
-45.	450.	3500.	5.66	2991.	5.65	2988.	-0.01	-3.	-0.17	-0.09
-45.	450.	15000.	18.83	9570.	18.80	9567.	-0.03	-3.	-0.14	-0.03
-45.	500.	4000.	5.89	3449.	5.88	3447.	-0.01	-2.	-0.19	-0.06
-45.	500.	15000.	18.04	10073.	18.02	10068.	-0.02	-5.	-0.12	-0.05
-45.	550.	4500.	6.10	3912.	6.08	3909.	-0.02	-3.	-0.28	-0.07
-45.	550.	15000.	17.41	10480.	17.39	10474.	-0.02	-6.	-0.11	-0.06
-45.	600.	5500.	6.91	4754.	6.89	4751.	-0.02	-3.	-0.30	-0.07
-45.	600.	15000.	16.91	10803.	16.90	10791.	-0.01	-12.	-0.06	-0.11

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-45.	650.	6000.	7.15	5212.	7.14	5203.	-0.01	-9.	-0.12	-0.18
-45.	650.	15000.	16.49	11067.	16.45	11061.	-0.04	-6.	-0.23	-0.05
-60.	300.	4000.	7.30	1820.	7.29	1819.	-0.01	-1.	-0.16	-0.03
-60.	300.	15000.	20.33	4947.	20.31	4946.	-0.02	-1.	-0.09	-0.03
-60.	350.	4000.	6.57	1912.	6.56	1912.	-0.01	-0.	-0.08	-0.03
-60.	350.	15000.	19.07	5401.	19.05	5399.	-0.02	-2.	-0.12	-0.03
-60.	400.	5000.	7.26	2404.	7.25	2403.	-0.01	-1.	-0.18	-0.04
-60.	400.	15000.	17.94	5787.	17.92	5785.	-0.02	-2.	-0.13	-0.03
-60.	450.	5500.	7.24	2695.	7.23	2694.	-0.01	-1.	-0.08	-0.04
-60.	450.	15000.	16.95	6113.	16.92	6111.	-0.03	-2.	-0.15	-0.03
-60.	500.	6500.	7.77	3202.	7.76	3200.	-0.01	-2.	-0.11	-0.06
-60.	500.	15000.	16.11	6385.	16.09	6383.	-0.02	-2.	-0.15	-0.04
-60.	550.	7000.	7.77	3494.	7.75	3493.	-0.02	-1.	-0.22	-0.03
-60.	550.	15000.	15.43	6603.	15.41	6599.	-0.02	-4.	-0.12	-0.06
-60.	600.	8500.	8.81	4217.	8.79	4215.	-0.02	-2.	-0.24	-0.05
-60.	600.	15000.	14.89	6773.	14.87	6768.	-0.02	-5.	-0.16	-0.07
-60.	650.	9500.	9.38	4717.	9.36	4712.	-0.02	-5.	-0.20	-0.10
-60.	650.	15000.	14.40	6916.	14.36	6913.	-0.04	-3.	-0.31	-0.05

WEAPON COEFFICIENTS FOR IDNO 10

CFORM1 = 1.4931993	DKG1 = 0.0	DM1 = 0.0	VMUZ = 0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN = 0.	SL = 0.0
ITYPE = -1	IREF = 1	VE = 0.0		
IBOTH = 1	DMAX = 5.00	DTI = 3.00		

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	NAVAIR 01-1C-1T-1 BALLISTICS TABLES DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
10.	300.	500.	8.95	4387.	8.93	4401.	-0.02	14.	-0.17	0.32
10.	300.	3000.	16.77	8114.	16.73	8162.	-0.04	48.	-0.22	0.59
10.	350.	500.	9.61	5475.	9.60	5499.	-0.01	24.	-0.13	0.43
10.	350.	3000.	17.34	9728.	17.29	9800.	-0.05	72.	-0.28	0.74
10.	400.	500.	10.30	6672.	10.28	6710.	-0.02	38.	-0.17	0.57
10.	400.	3000.	17.91	11418.	17.86	11519.	-0.05	101.	-0.27	0.88
10.	450.	500.	11.00	7978.	10.99	8036.	-0.01	58.	-0.13	0.72
10.	450.	3000.	18.49	13182.	18.44	13320.	-0.05	138.	-0.25	1.05
10.	500.	500.	11.72	9392.	11.71	9477.	-0.01	85.	-0.12	0.90
10.	500.	3000.	19.09	15019.	19.04	15203.	-0.05	184.	-0.28	1.22
10.	550.	500.	12.45	10911.	12.44	11031.	-0.01	120.	-0.07	1.10
10.	550.	3000.	19.69	16927.	19.64	17165.	-0.05	238.	-0.26	1.41
10.	600.	500.	13.16	12452.	13.16	12608.	-0.00	156.	-0.03	1.25
10.	600.	3000.	20.28	18765.	20.24	19062.	-0.04	297.	-0.22	1.58
10.	650.	500.	13.80	13803.	13.82	14036.	0.02	233.	0.11	1.68
10.	650.	3000.	20.83	20265.	20.81	20675.	-0.02	410.	-0.10	2.03
0.	300.	1500.	9.72	4830.	9.69	4843.	-0.03	13.	-0.28	0.26
0.	300.	15000.	31.20	15004.	31.00	15121.	-0.20	117.	-0.64	0.78
0.	350.	1000.	7.93	4604.	7.91	4612.	-0.02	8.	-0.28	0.18
0.	350.	15000.	31.27	17437.	31.05	17592.	-0.22	155.	-0.71	0.89
0.	400.	1000.	7.94	5253.	7.91	5264.	-0.03	11.	-0.36	0.21
0.	400.	15000.	31.35	19848.	31.12	20044.	-0.23	196.	-0.74	0.99
0.	450.	1000.	7.94	5899.	7.91	5914.	-0.03	15.	-0.32	0.25
0.	450.	15000.	31.47	22231.	31.22	22472.	-0.25	241.	-0.79	1.09
0.	500.	1000.	7.95	6544.	7.92	6562.	-0.03	18.	-0.41	0.27
0.	500.	15000.	31.64	24564.	31.38	24855.	-0.26	291.	-0.82	1.18
0.	550.	1000.	7.96	7186.	7.92	7208.	-0.04	22.	-0.49	0.31
0.	550.	15000.	31.90	26725.	31.62	27077.	-0.28	352.	-0.88	1.32
0.	600.	1000.	7.97	7795.	7.93	7817.	-0.04	22.	-0.48	0.28
0.	600.	15000.	32.21	28435.	31.91	28923.	-0.30	488.	-0.92	1.72

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	NAVAIR 01-1C-1T-1 BALLISTICS TABLES DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
0.	650.	500.	5.65	5948.	5.59	5928.	-0.06	-20.	-1.08	-0.33
0.	650.	15000.	32.51	29805.	32.20	30444.	-0.31	639.	-0.94	2.14
-10.	300.	1000.	5.65	2785.	5.63	2785.	-0.02	0.	-0.37	0.00
-10.	300.	3500.	12.41	6041.	12.36	6060.	-0.05	19.	-0.38	0.31
-10.	350.	1000.	5.35	3077.	5.34	3077.	-0.01	0.	-0.28	0.01
-10.	350.	5000.	14.96	8423.	14.88	8459.	-0.08	36.	-0.51	0.43
-10.	400.	1000.	5.08	3335.	5.06	3334.	-0.02	-1.	-0.36	-0.02
-10.	400.	6500.	17.11	10924.	17.01	10984.	-0.10	60.	-0.57	0.55
-10.	450.	1000.	4.83	3563.	4.81	3561.	-0.02	-2.	-0.46	-0.07
-10.	450.	8000.	19.01	13544.	18.88	13634.	-0.13	90.	-0.68	0.66
-10.	500.	1000.	4.60	3764.	4.57	3760.	-0.03	-4.	-0.61	-0.11
-10.	500.	9500.	20.76	16272.	20.59	16396.	-0.17	124.	-0.81	0.76
-10.	550.	1500.	5.95	5325.	5.92	5328.	-0.03	3.	-0.59	0.05
-10.	550.	11500.	23.14	19500.	22.92	19676.	-0.22	176.	-0.97	0.91
-10.	600.	1500.	5.73	5563.	5.69	5563.	-0.04	-0.	-0.64	-0.00
-10.	600.	13000.	24.94	22020.	24.66	22301.	-0.28	281.	-1.14	1.28
-10.	650.	1500.	5.56	5761.	5.51	5753.	-0.05	-8.	-0.94	-0.14
-10.	650.	14500.	26.75	24337.	26.40	24751.	-0.35	414.	-1.31	1.70
-20.	300.	1500.	5.72	2689.	5.70	2689.	-0.02	0.	-0.40	0.01
-20.	300.	5500.	14.09	6520.	14.02	6540.	-0.07	20.	-0.51	0.31
-20.	350.	1500.	5.28	2898.	5.26	2898.	-0.02	-0.	-0.31	-0.01
-20.	350.	7500.	16.53	8852.	16.43	8889.	-0.10	37.	-0.61	0.42
-20.	400.	1500.	4.90	3069.	4.88	3068.	-0.02	-1.	-0.42	-0.02
-20.	400.	10000.	19.24	11668.	19.10	11730.	-0.14	62.	-0.75	0.53
-20.	450.	1500.	4.56	3211.	4.54	3209.	-0.02	-2.	-0.49	-0.06
-20.	450.	12000.	21.04	14226.	20.86	14313.	-0.18	87.	-0.86	0.61
-20.	500.	2000.	5.41	4217.	5.38	4217.	-0.03	-0.	-0.51	-0.01
-20.	500.	15000.	23.91	17580.	23.66	17708.	-0.25	128.	-1.05	0.73
-20.	550.	2000.	5.09	4363.	5.06	4362.	-0.03	-1.	-0.52	-0.02
-20.	550.	15000.	23.57	18646.	23.28	18805.	-0.29	159.	-1.25	0.85
-20.	600.	2000.	4.83	4482.	4.79	4480.	-0.04	-2.	-0.86	-0.05
-20.	600.	15000.	23.33	19492.	22.99	19705.	-0.34	213.	-1.46	1.09
-20.	650.	2000.	4.61	4579.	4.56	4570.	-0.05	-9.	-1.04	-0.20
-20.	650.	15000.	23.16	20179.	22.74	20476.	-0.42	297.	-1.81	1.47
-30.	300.	2000.	5.83	2526.	5.81	2526.	-0.02	0.	-0.39	0.01
-30.	300.	9000.	17.40	7375.	17.29	7402.	-0.11	27.	-0.61	0.37
-30.	350.	2000.	5.31	2685.	5.29	2685.	-0.02	-0.	-0.35	-0.01
-30.	350.	12000.	20.13	9869.	19.98	9915.	-0.15	46.	-0.76	0.46
-30.	400.	2000.	4.87	2810.	4.85	2809.	-0.02	-1.	-0.49	-0.03
-30.	400.	15000.	22.51	12482.	22.31	12549.	-0.20	67.	-0.90	0.53

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.43	3517.	5.41	3517.	-0.02	0.	-0.45	0.01
-30.	450.	15000.	21.75	13474.	21.53	13547.	-0.22	73.	-1.00	0.54
-30.	500.	2500.	5.05	3629.	5.02	3628.	-0.03	-1.	-0.60	-0.02
-30.	500.	15000.	21.10	14351.	20.86	14434.	-0.24	83.	-1.14	0.58
-30.	550.	2500.	4.71	3720.	4.68	3719.	-0.03	-1.	-0.68	-0.02
-30.	550.	15000.	20.59	15082.	20.31	15185.	-0.28	103.	-1.35	0.68
-30.	600.	3000.	5.22	4452.	5.17	4452.	-0.05	0.	-0.93	0.00
-30.	600.	15000.	20.21	15662.	19.87	15798.	-0.34	136.	-1.68	0.87
-30.	650.	3500.	5.71	5181.	5.65	5180.	-0.06	-1.	-1.07	-0.02
-30.	650.	15000.	19.91	16134.	19.46	16332.	-0.45	198.	-2.27	1.23
-40.	300.	2500.	5.99	2297.	5.97	2297.	-0.02	0.	-0.30	0.02
-40.	300.	14000.	21.60	8040.	21.44	8075.	-0.16	35.	-0.74	0.43
-40.	350.	2500.	5.42	2422.	5.40	2422.	-0.02	-0.	-0.43	-0.01
-40.	350.	15000.	21.55	9313.	21.37	9355.	-0.18	42.	-0.86	0.45
-40.	400.	3000.	5.78	2943.	5.75	2943.	-0.03	0.	-0.53	0.01
-40.	400.	15000.	20.56	10114.	20.37	10158.	-0.19	44.	-0.94	0.44
-40.	450.	3000.	5.31	3041.	5.28	3041.	-0.03	0.	-0.54	0.00
-40.	450.	15000.	19.67	10818.	19.47	10866.	-0.20	48.	-1.01	0.44
-40.	500.	3500.	5.62	3572.	5.59	3573.	-0.03	1.	-0.46	0.02
-40.	500.	15000.	18.92	11425.	18.70	11478.	-0.22	53.	-1.18	0.46
-40.	550.	4000.	5.91	4109.	5.87	4110.	-0.04	1.	-0.75	0.04
-40.	550.	15000.	18.32	11922.	18.05	11987.	-0.27	65.	-1.45	0.55
-40.	600.	4500.	6.20	4645.	6.13	4648.	-0.07	3.	-1.05	0.06
-40.	600.	15000.	17.85	12315.	17.52	12401.	-0.33	86.	-1.85	0.70
-40.	650.	5000.	6.51	5177.	6.43	5180.	-0.08	3.	-1.30	0.06
-40.	650.	15000.	17.46	12636.	17.01	12764.	-0.45	128.	-2.60	1.02
-45.	300.	2500.	5.63	1994.	5.61	1994.	-0.02	0.	-0.31	0.01
-45.	300.	15000.	21.93	7530.	21.76	7562.	-0.17	32.	-0.75	0.42
-45.	350.	3000.	5.92	2441.	5.90	2442.	-0.02	1.	-0.34	0.02
-45.	350.	15000.	20.79	8304.	20.61	8339.	-0.18	35.	-0.85	0.42
-45.	400.	3000.	5.39	2537.	5.37	2537.	-0.02	0.	-0.45	0.02
-45.	400.	15000.	19.75	8982.	19.57	9018.	-0.18	36.	-0.93	0.40
-45.	450.	3500.	5.66	2991.	5.63	2991.	-0.03	0.	-0.50	0.00
-45.	450.	15000.	18.83	9570.	18.63	9609.	-0.20	39.	-1.04	0.40
-45.	500.	4000.	5.89	3449.	5.86	3450.	-0.03	1.	-0.58	0.04
-45.	500.	15000.	18.04	10073.	17.82	10114.	-0.22	41.	-1.20	0.41
-45.	550.	4500.	6.10	3912.	6.05	3914.	-0.05	2.	-0.74	0.04
-45.	550.	15000.	17.41	10480.	17.15	10532.	-0.26	52.	-1.50	0.50
-45.	600.	5500.	6.91	4754.	6.83	4759.	-0.08	5.	-1.10	0.11
-45.	600.	15000.	16.91	10803.	16.59	10871.	-0.32	68.	-1.91	0.63

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	650.	6000.	7.15	5212.	7.05	5218.	-0.10	6.	-1.43	0.12
-45.	650.	15000.	16.49	11067.	16.04	11170.	-0.45	103.	-2.71	0.93
-60.	300.	4000.	7.30	1820.	7.27	1821.	-0.03	1.	-0.45	0.07
-60.	300.	15000.	20.33	4947.	20.17	4965.	-0.16	18.	-0.77	0.36
-60.	350.	4000.	6.57	1912.	6.54	1913.	-0.03	1.	-0.38	0.07
-60.	350.	15000.	19.07	5401.	18.91	5419.	-0.16	18.	-0.85	0.34
-60.	400.	5000.	7.26	2404.	7.22	2406.	-0.04	2.	-0.57	0.07
-60.	400.	15000.	17.94	5787.	17.77	5806.	-0.17	19.	-0.94	0.32
-60.	450.	5500.	7.24	2695.	7.20	2697.	-0.04	2.	-0.52	0.07
-60.	450.	15000.	16.95	6113.	16.77	6133.	-0.18	20.	-1.07	0.32
-60.	500.	6500.	7.77	3202.	7.72	3204.	-0.05	2.	-0.62	0.06
-60.	500.	15000.	16.11	6385.	15.91	6406.	-0.20	21.	-1.24	0.33
-60.	550.	7000.	7.77	3494.	7.70	3498.	-0.07	4.	-0.87	0.10
-60.	550.	15000.	15.43	6603.	15.19	6628.	-0.24	25.	-1.56	0.38
-60.	600.	8500.	8.81	4217.	8.69	4225.	-0.12	8.	-1.33	0.18
-60.	600.	15000.	14.89	6773.	14.58	6807.	-0.31	34.	-2.11	0.51
-60.	650.	9500.	9.38	4717.	9.19	4730.	-0.19	13.	-1.99	0.28
-60.	650.	15000.	14.40	6916.	13.98	6964.	-0.42	48.	-2.89	0.70

WEAPON COEFFICIENTS FOR IDNO 11

CFORM1 = 1.3430996   DKG1 = 0.0   DM1 = 0.0   VMUZ = 0.   DS = 0.0
CFORM2 = 0.0   DKG2 = 0.0   DM2 = 0.0   FN = 0.   SL = 0.0

ITYPE = -1   IREF = 1   VE = 0.0
IBOTH = 1   DMAX = 5.00   DTI = 1.00

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.95	4412.	8.94	4407.	-0.01	-5.	-0.15	-0.11
10.	300.	3000.	16.74	8181.	16.73	8177.	-0.01	-4.	-0.06	-0.04
10.	350.	500.	9.61	5515.	9.60	5509.	-0.01	-6.	-0.09	-0.11
10.	350.	3000.	17.29	9826.	17.29	9822.	-0.00	-4.	-0.02	-0.04
10.	400.	500.	10.30	6733.	10.29	6726.	-0.01	-7.	-0.12	-0.11
10.	400.	3000.	17.87	11555.	17.86	11550.	-0.01	-5.	-0.07	-0.04
10.	450.	500.	11.01	8068.	10.99	8059.	-0.02	-9.	-0.15	-0.11
10.	450.	3000.	18.45	13369.	18.44	13362.	-0.01	-7.	-0.06	-0.05
10.	500.	500.	11.73	9520.	11.72	9509.	-0.01	-11.	-0.12	-0.12
10.	500.	3000.	19.04	15266.	19.03	15259.	-0.01	-7.	-0.04	-0.05
10.	550.	500.	12.47	11087.	12.45	11074.	-0.02	-13.	-0.14	-0.12
10.	550.	3000.	19.65	17246.	19.64	17238.	-0.01	-8.	-0.07	-0.05
10.	600.	500.	13.20	12701.	13.17	12672.	-0.03	-30.	-0.19	-0.23
10.	600.	3000.	20.26	19185.	20.24	19161.	-0.02	-24.	-0.09	-0.12
10.	650.	500.	13.89	14192.	13.85	14140.	-0.04	-52.	-0.30	-0.36
10.	650.	3000.	20.85	20859.	20.83	20822.	-0.02	-37.	-0.12	-0.18
0.	300.	1500.	9.70	4851.	9.69	4848.	-0.01	-3.	-0.10	-0.07
0.	300.	15000.	30.98	15164.	30.96	15155.	-0.02	-9.	-0.06	-0.06
0.	350.	1500.	9.70	5652.	9.70	5648.	-0.00	-4.	-0.04	-0.07
0.	350.	15000.	31.03	17647.	31.01	17636.	-0.02	-11.	-0.07	-0.06
0.	400.	1500.	9.71	6451.	9.70	6446.	-0.01	-5.	-0.09	-0.08
0.	400.	15000.	31.10	20112.	31.07	20101.	-0.03	-11.	-0.08	-0.06
0.	450.	1000.	7.92	5930.	7.91	5922.	-0.01	-8.	-0.09	-0.13
0.	450.	15000.	31.20	22555.	31.17	22542.	-0.03	-13.	-0.08	-0.06
0.	500.	1000.	7.93	6582.	7.92	6573.	-0.01	-9.	-0.17	-0.14
0.	500.	15000.	31.35	24955.	31.33	24941.	-0.02	-14.	-0.07	-0.06
0.	550.	1000.	7.93	7232.	7.92	7221.	-0.01	-11.	-0.13	-0.15
0.	550.	15000.	31.58	27205.	31.56	27186.	-0.02	-19.	-0.06	-0.07
0.	600.	1000.	7.95	7857.	7.93	7836.	-0.02	-21.	-0.25	-0.27
0.	600.	15000.	31.86	29100.	31.84	29081.	-0.02	-19.	-0.06	-0.07

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	650.	1000.	7.98	8427.	7.95	8384.	-0.03	-43.	-0.35	-0.50
0.	650.	15000.	32.14	30700.	32.13	30658.	-0.01	-42.	-0.04	-0.14
-10.	300.	1500.	7.34	3625.	7.33	3623.	-0.01	-2.	-0.10	-0.06
-10.	300.	4000.	13.38	6559.	13.37	6557.	-0.01	-2.	-0.06	-0.03
-10.	350.	1500.	7.02	4042.	7.01	4039.	-0.01	-3.	-0.09	-0.08
-10.	350.	5000.	14.88	8474.	14.87	8471.	-0.01	-3.	-0.06	-0.04
-10.	400.	1500.	6.72	4418.	6.71	4414.	-0.01	-4.	-0.11	-0.09
-10.	400.	6500.	17.00	11006.	16.99	11003.	-0.01	-3.	-0.04	-0.03
-10.	450.	1500.	6.44	4757.	6.43	4752.	-0.01	-5.	-0.17	-0.11
-10.	450.	8000.	18.86	13666.	18.86	13661.	-0.00	-5.	-0.02	-0.04
-10.	500.	1500.	6.17	5063.	6.16	5057.	-0.01	-6.	-0.13	-0.12
-10.	500.	10000.	21.22	16935.	21.21	16929.	-0.01	-6.	-0.04	-0.04
-10.	550.	1500.	5.92	5339.	5.91	5331.	-0.01	-8.	-0.16	-0.14
-10.	550.	12000.	23.49	20226.	23.48	20216.	-0.01	-10.	-0.03	-0.05
-10.	600.	1500.	5.70	5580.	5.69	5568.	-0.01	-12.	-0.23	-0.22
-10.	600.	14000.	25.77	23353.	25.76	23335.	-0.01	-18.	-0.03	-0.08
-10.	650.	1500.	5.51	5787.	5.50	5762.	-0.01	-25.	-0.22	-0.43
-10.	650.	15000.	26.89	25393.	26.87	25374.	-0.02	-19.	-0.08	-0.07
-20.	300.	1500.	5.70	2692.	5.69	2690.	-0.01	-2.	-0.10	-0.06
-20.	300.	6000.	14.82	6918.	14.81	6917.	-0.01	-1.	-0.05	-0.02
-20.	350.	1500.	5.27	2901.	5.26	2899.	-0.01	-2.	-0.16	-0.08
-20.	350.	8000.	17.11	9273.	17.11	9270.	-0.00	-3.	-0.02	-0.03
-20.	400.	2000.	6.13	3847.	6.12	3844.	-0.01	-3.	-0.15	-0.07
-20.	400.	10000.	19.08	11752.	19.07	11749.	-0.01	-4.	-0.07	-0.03
-20.	450.	2000.	5.74	4051.	5.73	4047.	-0.01	-4.	-0.17	-0.09
-20.	450.	12500.	21.40	14717.	21.39	14712.	-0.01	-5.	-0.03	-0.04
-20.	500.	2000.	5.39	4223.	5.38	4219.	-0.01	-4.	-0.23	-0.10
-20.	500.	15000.	23.62	17755.	23.61	17747.	-0.01	-8.	-0.06	-0.04
-20.	550.	2000.	5.07	4369.	5.06	4364.	-0.01	-5.	-0.21	-0.12
-20.	550.	15000.	23.22	18866.	23.21	18858.	-0.01	-8.	-0.05	-0.04
-20.	600.	2000.	4.80	4490.	4.78	4482.	-0.02	-8.	-0.36	-0.17
-20.	600.	15000.	22.91	19793.	22.90	19780.	-0.01	-13.	-0.04	-0.07
-20.	65C.	2000.	4.56	4590.	4.55	4574.	-0.01	-16.	-0.18	-0.35
-20.	650.	15000.	22.65	20582.	22.62	20583.	-0.03	1.	-0.14	0.00
-30.	300.	2000.	5.81	2529.	5.80	2527.	-0.01	-2.	-0.09	-0.07
-30.	300.	9000.	17.28	7412.	17.27	7410.	-0.01	-2.	-0.04	-0.02
-30.	350.	2000.	5.29	2687.	5.29	2685.	-0.00	-2.	-0.02	-0.06
-30.	350.	12000.	19.96	9931.	19.95	9928.	-0.01	-3.	-0.05	-0.03
-30.	400.	2500.	5.85	3385.	5.84	3382.	-0.01	-3.	-0.17	-0.08
-30.	400.	15000.	22.28	12573.	22.27	12568.	-0.01	-5.	-0.04	-0.04

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.41	3521.	5.40	3518.	-0.01	-3.	-0.16	-0.07
-30.	450.	15000.	21.50	13574.	21.49	13569.	-0.01	-5.	-0.04	-0.03
-30.	500.	2500.	5.02	3632.	5.02	3629.	-0.00	-3.	-0.09	-0.07
-30.	500.	15000.	20.82	14465.	20.81	14460.	-0.01	-5.	-0.05	-0.04
-30.	550.	3000.	5.50	4362.	5.49	4359.	-0.01	-3.	-0.21	-0.07
-30.	550.	15000.	20.26	15225.	20.25	15219.	-0.01	-6.	-0.06	-0.04
-30.	600.	3000.	5.18	4459.	5.16	4454.	-0.02	-5.	-0.31	-0.11
-30.	600.	15000.	19.80	15855.	19.78	15847.	-0.02	-8.	-0.09	-0.05
-30.	650.	3500.	5.65	5194.	5.63	5184.	-0.02	-10.	-0.29	-0.19
-30.	650.	15000.	19.36	16401.	19.34	16400.	-0.02	-1.	-0.13	-0.00
-40.	300.	2500.	5.97	2299.	5.97	2298.	-0.00	-1.	-0.03	-0.04
-40.	300.	15000.	22.43	8460.	22.42	8457.	-0.01	-3.	-0.04	-0.04
-40.	350.	2500.	5.40	2424.	5.39	2422.	-0.01	-2.	-0.12	-0.07
-40.	350.	15000.	21.34	9370.	21.33	9367.	-0.01	-3.	-0.04	-0.03
-40.	400.	3000.	5.72	2946.	5.75	2944.	0.03	-2.	0.44	-0.07
-40.	400.	15000.	20.34	10175.	20.33	10172.	-0.01	-3.	-0.04	-0.03
-40.	450.	3000.	5.28	3044.	5.28	3042.	-0.00	-2.	-0.05	-0.07
-40.	450.	15000.	19.44	10833.	19.43	10880.	-0.01	47.	-0.03	0.44
-40.	500.	3500.	5.60	3576.	5.59	3574.	-0.01	-2.	-0.20	-0.06
-40.	500.	15000.	18.66	11498.	18.65	11495.	-0.01	-3.	-0.05	-0.03
-40.	550.	4000.	5.87	4114.	5.86	4112.	-0.01	-2.	-0.19	-0.06
-40.	550.	15000.	18.00	12013.	17.99	12009.	-0.01	-4.	-0.05	-0.03
-40.	600.	4500.	6.14	4653.	6.12	4650.	-0.02	-3.	-0.27	-0.06
-40.	600.	15000.	17.45	12437.	17.43	12432.	-0.02	-5.	-0.09	-0.04
-40.	650.	5000.	6.42	5190.	6.40	5184.	-0.02	-6.	-0.24	-0.11
-40.	650.	15000.	16.91	12809.	16.89	12807.	-0.02	-2.	-0.11	-0.01
-45.	300.	2500.	5.61	1996.	5.61	1995.	-0.00	-1.	-0.01	-0.07
-45.	300.	15000.	21.74	7574.	21.73	7571.	-0.01	-3.	-0.03	-0.04
-45.	350.	3000.	5.90	2443.	5.90	2442.	-0.00	-1.	-0.07	-0.03
-45.	350.	15000.	20.59	8351.	20.58	8349.	-0.01	-2.	-0.04	-0.03
-45.	400.	3000.	5.37	2539.	5.36	2538.	-0.01	-1.	-0.15	-0.04
-45.	400.	15000.	19.54	9031.	19.53	9029.	-0.01	-2.	-0.03	-0.03
-45.	450.	3500.	5.63	2993.	5.63	2992.	-0.00	-1.	-0.06	-0.04
-45.	450.	15000.	18.60	9623.	18.60	9620.	-0.00	-3.	-0.02	-0.03
-45.	500.	4000.	5.86	3453.	5.85	3451.	-0.01	-2.	-0.17	-0.05
-45.	500.	15000.	17.79	10131.	17.78	10128.	-0.01	-3.	-0.06	-0.03
-45.	550.	4500.	6.06	3916.	6.05	3915.	-0.01	-1.	-0.21	-0.03
-45.	550.	15000.	17.10	10553.	17.09	10550.	-0.01	-3.	-0.05	-0.03
-45.	600.	5500.	6.84	4764.	6.82	4762.	-0.02	-2.	-0.30	-0.05
-45.	600.	15000.	16.52	10900.	16.50	10896.	-0.02	-4.	-0.10	-0.03

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	650.	6000.	7.04	5228.	7.02	5223.	-0.02	-5.	-0.24	-0.10
-45.	650.	15000.	15.95	11205.	15.93	11203.	-0.02	-2.	-0.12	-0.02
-60.	300.	4000.	7.27	1822.	7.26	1822.	-0.01	-0.	-0.10	-0.01
-60.	300.	15000.	20.16	4972.	20.15	4970.	-0.01	-2.	-0.07	-0.04
-60.	350.	4000.	6.55	1914.	6.54	1914.	-0.01	-0.	-0.16	-0.01
-60.	350.	15000.	18.89	5426.	18.88	5425.	-0.01	-1.	-0.06	-0.02
-60.	400.	5000.	7.22	2407.	7.21	2406.	-0.01	-1.	-0.11	-0.02
-60.	400.	15000.	17.75	5813.	17.74	5811.	-0.01	-2.	-0.04	-0.03
-60.	450.	5500.	7.20	2699.	7.19	2698.	-0.01	-1.	-0.07	-0.05
-60.	450.	15000.	16.75	6140.	16.74	6139.	-0.01	-1.	-0.07	-0.02
-60.	500.	6500.	7.72	3206.	7.71	3205.	-0.01	-1.	-0.08	-0.03
-60.	500.	15000.	15.88	6414.	15.87	6413.	-0.01	-1.	-0.05	-0.02
-60.	550.	7000.	7.70	3500.	7.69	3499.	-0.01	-1.	-0.10	-0.03
-60.	550.	15000.	15.15	6638.	15.14	6637.	-0.01	-1.	-0.09	-0.01
-60.	600.	8500.	8.69	4229.	8.67	4228.	-0.02	-1.	-0.22	-0.03
-60.	600.	15000.	14.52	6821.	14.50	6820.	-0.02	-1.	-0.12	-0.02
-60.	650.	9500.	9.17	4738.	9.15	4736.	-0.02	-2.	-0.21	-0.04
-60.	650.	15000.	13.90	6982.	13.89	6980.	-0.01	-2.	-0.09	-0.02

WEAPON COEFFICIENTS FOR IDNO 12

CFORM1 = 1.2099991	DKG1 = 0.0	DM1 = 0.0	VMUZ = 0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN = 0.	SL = 0.0
ITYPE = -1	IREF = 1	VE = 0.0		
IBOTH = 1	DMAX = 5.00	DTI = 3.00		

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.95	4412.	8.94	4412.	-0.01	-0.	-0.16	-0.01
10.	300.	3000.	16.74	8181.	16.72	8189.	-0.02	8.	-0.12	0.10
10.	350.	500.	9.61	5515.	9.60	5516.	-0.01	1.	-0.10	0.02
10.	350.	3000.	17.29	9826.	17.28	9839.	-0.01	13.	-0.08	0.13
10.	400.	500.	10.30	6733.	10.29	6736.	-0.01	3.	-0.13	0.05
10.	400.	3000.	17.87	11555.	17.85	11575.	-0.02	20.	-0.14	0.17
10.	450.	500.	11.01	8068.	10.99	8074.	-0.02	6.	-0.17	0.07
10.	450.	3000.	18.45	13369.	18.43	13396.	-0.02	27.	-0.12	0.20
10.	500.	500.	11.73	9520.	11.72	9530.	-0.01	10.	-0.13	0.11
10.	500.	3000.	19.04	15266.	19.02	15303.	-0.02	37.	-0.10	0.24
10.	550.	500.	12.47	11087.	12.45	11105.	-0.02	18.	-0.14	0.16
10.	550.	3000.	19.65	17246.	19.62	17295.	-0.03	49.	-0.14	0.28
10.	600.	500.	13.20	12701.	13.18	12717.	-0.02	16.	-0.16	0.13
10.	600.	3000.	20.26	19185.	20.23	19239.	-0.03	54.	-0.14	0.28
10.	650.	500.	13.89	14192.	13.86	14215.	-0.03	23.	-0.22	0.16
10.	650.	3000.	20.85	20859.	20.82	20940.	-0.03	81.	-0.14	0.39
0.	300.	1500.	9.70	4851.	9.69	4851.	-0.01	0.	-0.14	0.01
0.	300.	15000.	30.98	15164.	30.91	15185.	-0.07	21.	-0.22	0.14
0.	350.	1500.	9.70	5652.	9.69	5653.	-0.01	1.	-0.10	0.02
0.	350.	15000.	31.03	17647.	30.96	17675.	-0.07	28.	-0.24	0.16
0.	400.	1500.	9.71	6451.	9.70	6452.	-0.01	1.	-0.15	0.02
0.	400.	15000.	31.10	20112.	31.02	20149.	-0.08	37.	-0.27	0.19
0.	450.	1000.	7.92	5930.	7.91	5928.	-0.01	-2.	-0.14	-0.04
0.	450.	15000.	31.20	22555.	31.11	22603.	-0.09	48.	-0.29	0.21
0.	500.	1000.	7.93	6582.	7.91	6579.	-0.02	-3.	-0.24	-0.04
0.	500.	15000.	31.35	24955.	31.25	25014.	-0.10	59.	-0.30	0.24
0.	550.	1000.	7.93	7232.	7.91	7229.	-0.02	-3.	-0.20	-0.04
0.	550.	15000.	31.58	27205.	31.48	27279.	-0.10	74.	-0.33	0.27
0.	600.	1000.	7.95	7857.	7.92	7848.	-0.03	-9.	-0.33	-0.12
0.	600.	15000.	31.86	29100.	31.74	29214.	-0.12	114.	-0.36	0.39

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	650.	1000.	7.98	8427.	7.94	8405.	-0.04	-22.	-0.45	-0.26
0.	650.	15000.	32.14	30700.	32.02	30846.	-0.12	146.	-0.38	0.48
-10.	300.	1500.	7.34	3625.	7.33	3625.	-0.01	-0.	-0.15	-0.01
-10.	300.	4000.	13.38	6559.	13.36	6562.	-0.02	3.	-0.15	0.05
-10.	350.	1500.	7.02	4042.	7.01	4041.	-0.01	-1.	-0.14	-0.03
-10.	350.	5000.	14.88	8474.	14.85	8480.	-0.03	6.	-0.17	0.07
-10.	400.	1500.	6.72	4418.	6.71	4416.	-0.01	-2.	-0.16	-0.04
-10.	400.	6500.	17.00	11006.	16.97	11017.	-0.03	11.	-0.18	0.10
-10.	450.	1500.	6.44	4757.	6.43	4755.	-0.01	-2.	-0.23	-0.05
-10.	450.	8000.	18.86	13666.	18.82	13682.	-0.04	16.	-0.19	0.12
-10.	500.	1500.	6.17	5063.	6.16	5060.	-0.01	-3.	-0.20	-0.06
-10.	500.	10000.	21.22	16935.	21.17	16961.	-0.05	26.	-0.25	0.15
-10.	550.	1500.	5.92	5339.	5.91	5335.	-0.01	-4.	-0.23	-0.08
-10.	550.	12000.	23.49	20226.	23.42	20264.	-0.07	38.	-0.31	0.19
-10.	600.	1500.	5.70	5580.	5.68	5573.	-0.02	-7.	-0.33	-0.13
-10.	600.	14000.	25.77	23353.	25.67	23419.	-0.10	66.	-0.41	0.28
-10.	650.	1500.	5.51	5787.	5.49	5770.	-0.02	-17.	-0.39	-0.30
-10.	650.	15000.	26.89	25393.	26.74	25509.	-0.15	116.	-0.57	0.46
-20.	300.	1500.	5.70	2692.	5.69	2691.	-0.01	-1.	-0.14	-0.03
-20.	300.	6000.	14.82	6918.	14.80	6922.	-0.02	4.	-0.17	0.06
-20.	350.	1500.	5.27	2901.	5.26	2900.	-0.01	-1.	-0.21	-0.05
-20.	350.	8000.	17.11	9273.	17.08	9280.	-0.03	7.	-0.17	0.07
-20.	400.	2000.	6.13	3847.	6.12	3846.	-0.01	-1.	-0.21	-0.03
-20.	400.	10000.	19.08	11752.	19.03	11763.	-0.05	11.	-0.24	0.10
-20.	450.	2000.	5.74	4051.	5.73	4049.	-0.01	-2.	-0.23	-0.06
-20.	450.	12500.	21.40	14717.	21.34	14734.	-0.06	17.	-0.26	0.11
-20.	500.	2000.	5.39	4223.	5.37	4220.	-0.02	-3.	-0.30	-0.07
-20.	500.	15000.	23.62	17755.	23.53	17780.	-0.09	25.	-0.37	0.14
-20.	550.	2000.	5.07	4369.	5.06	4366.	-0.01	-3.	-0.29	-0.08
-20.	550.	15000.	23.22	18866.	23.12	18899.	-0.10	33.	-0.43	0.17
-20.	600.	2000.	4.80	4490.	4.78	4485.	-0.02	-5.	-0.47	-0.12
-20.	600.	15000.	22.91	19793.	22.79	19839.	-0.12	46.	-0.52	0.23
-20.	650.	2000.	4.56	4590.	4.54	4578.	-0.02	-12.	-0.37	-0.26
-20.	650.	15000.	22.65	20582.	22.48	20670.	-0.17	88.	-0.76	0.43
-30.	300.	2000.	5.81	2529.	5.80	2528.	-0.01	-1.	-0.14	-0.05
-30.	300.	9000.	17.28	7412.	17.25	7417.	-0.03	5.	-0.18	0.07
-30.	350.	2000.	5.29	2687.	5.29	2686.	-0.00	-1.	-0.07	-0.03
-30.	350.	12000.	19.96	9931.	19.91	9939.	-0.05	8.	-0.24	0.08
-30.	400.	2500.	5.85	3385.	5.84	3383.	-0.01	-2.	-0.24	-0.05
-30.	400.	15000.	22.28	12573.	22.22	12585.	-0.06	12.	-0.28	0.09

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-30.	450.	2500.	5.41	3521.	5.40	3519.	-0.01	-2.	-0.23	-0.05
-30.	450.	15000.	21.50	13574.	21.43	13587.	-0.07	13.	-0.31	0.10
-30.	500.	2500.	5.02	3632.	5.01	3630.	-0.01	-2.	-0.16	-0.05
-30.	500.	15000.	20.82	14465.	20.74	14481.	-0.08	16.	-0.39	0.11
-30.	550.	3000.	5.50	4362.	5.48	4360.	-0.02	-2.	-0.30	-0.04
-30.	550.	15000.	20.26	15225.	20.16	15246.	-0.10	21.	-0.48	0.13
-30.	600.	3000.	5.18	4459.	5.16	4456.	-0.02	-3.	-0.44	-0.07
-30.	600.	15000.	19.80	15855.	19.67	15885.	-0.13	30.	-0.63	0.19
-30.	650.	3500.	5.65	5194.	5.62	5188.	-0.03	-6.	-0.54	-0.12
-30.	650.	15000.	19.36	16401.	19.20	16454.	-0.16	53.	-0.83	0.32
-40.	300.	2500.	5.97	2299.	5.97	2299.	-0.00	-0.	-0.08	-0.02
-40.	300.	15000.	22.43	8460.	22.38	8466.	-0.05	6.	-0.23	0.07
-40.	350.	2500.	5.40	2424.	5.39	2423.	-0.01	-1.	-0.17	-0.05
-40.	350.	15000.	21.34	9370.	21.29	9377.	-0.05	7.	-0.25	0.07
-40.	400.	3000.	5.72	2946.	5.74	2945.	0.02	-1.	0.37	-0.04
-40.	400.	15000.	20.34	10175.	20.28	10183.	-0.06	8.	-0.29	0.07
-40.	450.	3000.	5.28	3044.	5.27	3043.	-0.01	-1.	-0.12	-0.05
-40.	450.	15000.	19.44	10833.	19.38	10892.	-0.06	59.	-0.31	0.54
-40.	500.	3500.	5.60	3576.	5.58	3575.	-0.02	-1.	-0.28	-0.04
-40.	500.	15000.	18.66	11498.	18.59	11508.	-0.07	10.	-0.39	0.09
-40.	550.	4000.	5.87	4114.	5.85	4113.	-0.02	-1.	-0.29	-0.03
-40.	550.	15000.	18.00	12013.	17.91	12027.	-0.09	14.	-0.49	0.11
-40.	600.	4500.	6.14	4653.	6.11	4652.	-0.03	-1.	-0.43	-0.02
-40.	600.	15000.	17.45	12437.	17.33	12456.	-0.12	19.	-0.67	0.15
-40.	650.	5000.	6.42	5190.	6.39	5188.	-0.03	-2.	-0.53	-0.05
-40.	650.	15000.	16.91	12809.	16.76	12839.	-0.15	30.	-0.86	0.23
-45.	300.	2500.	5.61	1996.	5.61	1995.	-0.00	-1.	-0.06	-0.05
-45.	300.	15000.	21.74	7574.	21.69	7579.	-0.05	5.	-0.22	0.06
-45.	350.	3000.	5.90	2443.	5.89	2443.	-0.01	-0.	-0.13	-0.01
-45.	350.	15000.	20.59	8351.	20.54	8357.	-0.05	6.	-0.26	0.07
-45.	400.	3000.	5.37	2539.	5.36	2539.	-0.01	-0.	-0.21	-0.02
-45.	400.	15000.	19.54	9031.	19.49	9038.	-0.05	7.	-0.28	0.07
-45.	450.	3500.	5.63	2993.	5.62	2993.	-0.01	-0.	-0.14	-0.02
-45.	450.	15000.	18.60	9623.	18.54	9630.	-0.06	7.	-0.30	0.07
-45.	500.	4000.	5.86	3453.	5.84	3452.	-0.02	-1.	-0.26	-0.03
-45.	500.	15000.	17.79	10131.	17.72	10138.	-0.07	7.	-0.41	0.07
-45.	550.	4500.	6.06	3916.	6.04	3916.	-0.02	-0.	-0.32	-0.01
-45.	550.	15000.	17.10	10553.	17.01	10563.	-0.09	10.	-0.51	0.10
-45.	600.	5500.	6.84	4764.	6.81	4764.	-0.03	-0.	-0.50	-0.01
-45.	600.	15000.	16.52	10900.	16.41	10915.	-0.11	15.	-0.68	0.14

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	650.	6000.	7.04	5228.	7.00	5226.	-0.04	-2.	-0.58	-0.03
-45.	650.	15000.	15.95	11205.	15.81	11227.	-0.14	22.	-0.86	0.20
-60.	300.	4000.	7.27	1822.	7.26	1822.	-0.01	0.	-0.18	0.01
-60.	300.	15000.	20.16	4972.	20.11	4974.	-0.05	2.	-0.27	0.05
-60.	350.	4000.	6.55	1914.	6.53	1914.	-0.02	0.	-0.23	0.01
-60.	350.	15000.	18.89	5426.	18.84	5429.	-0.05	3.	-0.28	0.06
-60.	400.	5000.	7.22	2407.	7.21	2407.	-0.01	0.	-0.21	0.00
-60.	400.	15000.	17.75	5813.	17.70	5816.	-0.05	3.	-0.30	0.05
-60.	450.	5500.	7.20	2699.	7.19	2698.	-0.01	-1.	-0.18	-0.03
-60.	450.	15000.	16.75	6140.	16.69	6143.	-0.06	3.	-0.36	0.05
-60.	500.	6500.	7.72	3206.	7.70	3206.	-0.02	-0.	-0.24	-0.01
-60.	500.	15000.	15.88	6414.	15.82	6418.	-0.06	4.	-0.41	0.06
-60.	550.	7000.	7.70	3500.	7.68	3500.	-0.02	-0.	-0.30	-0.00
-60.	550.	15000.	15.15	6638.	15.07	6644.	-0.08	6.	-0.55	0.08
-60.	600.	8500.	8.69	4229.	8.64	4230.	-0.05	1.	-0.57	0.02
-60.	600.	15000.	14.52	6821.	14.42	6829.	-0.10	8.	-0.72	0.11
-60.	650.	9500.	9.17	4738.	9.11	4740.	-0.06	2.	-0.71	0.04
-60.	650.	15000.	13.90	6982.	13.78	6991.	-0.12	9.	-0.84	0.13

WEAPON COEFFICIENTS FOR IDNO 13

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CFORM1 = 1.0C00000      DKG1 = 0.0      DM1 = 0.0      VMUZ =    0.     DS = 0.0
CFORM2 = 0.0            DKG2 = 0.0      DM2 = 0.0      FN =      0.     SL = 0.0

ITYPE = -1              IREF = 1        VE =  0.0
IBOTH =  1              DMAX = 5.00     DTI = 3.00
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			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	1000.	11.00	5475.	11.08	5471.	0.08	-4.	0.76	-0.07
10.	300.	3000.	16.72	8213.	16.71	8209.	-0.01	-4.	-0.07	-0.04
10.	350.	1000.	11.71	6727.	11.70	6722.	-0.01	-5.	-0.11	-0.08
10.	350.	3000.	17.27	9874.	17.26	9869.	-0.01	-5.	-0.03	-0.05
10.	400.	500.	10.30	6763.	10.29	6756.	-0.01	-7.	-0.10	-0.11
10.	400.	3000.	17.84	11623.	17.83	11616.	-0.01	-7.	-0.03	-0.06
10.	450.	500.	11.01	8112.	11.00	8102.	-0.01	-10.	-0.12	-0.12
10.	450.	3000.	18.43	13461.	18.42	13452.	-0.01	-9.	-0.08	-0.06
10.	500.	500.	11.74	9583.	11.72	9571.	-0.02	-12.	-0.15	-0.13
10.	500.	3000.	19.02	15388.	19.01	15378.	-0.01	-10.	-0.06	-0.06
10.	550.	500.	12.48	11174.	12.46	11160.	-0.02	-14.	-0.14	-0.13
10.	550.	3000.	19.63	17405.	19.61	17393.	-0.02	-12.	-0.09	-0.07
0.	300.	2000.	11.19	5608.	11.18	5605.	-0.01	-3.	-0.05	-0.05
0.	300.	15000.	30.87	15243.	30.85	15232.	-0.02	-11.	-0.07	-0.07
0.	350.	2000.	11.20	6536.	11.19	6532.	-0.01	-4.	-0.09	-0.07
0.	350.	15000.	30.91	17749.	30.89	17737.	-0.02	-12.	-0.08	-0.07
0.	400.	1500.	9.70	6469.	9.69	6464.	-0.01	-5.	-0.12	-0.08
0.	400.	15000.	30.97	20242.	30.94	20228.	-0.03	-14.	-0.10	-0.07
0.	450.	1500.	9.70	7270.	9.69	7264.	-0.01	-6.	-0.08	-0.08
0.	450.	15000.	31.05	22717.	31.02	22701.	-0.03	-16.	-0.09	-0.07
0.	500.	1500.	9.70	8070.	9.70	8063.	-0.00	-7.	-0.04	-0.09
0.	500.	15000.	31.18	25154.	31.15	25135.	-0.03	-19.	-0.08	-0.08
0.	550.	1500.	9.71	8868.	9.70	8860.	-0.01	-8.	-0.11	-0.09
0.	550.	15000.	31.38	27462.	31.35	27438.	-0.03	-24.	-0.09	-0.09
-10.	300.	1500.	7.33	3630.	7.32	3627.	-0.01	-3.	-0.07	-0.07
-10.	300.	4000.	13.35	6574.	13.34	6572.	-0.01	-2.	-0.04	-0.03
-10.	350.	1500.	7.01	4047.	7.01	4044.	-0.00	-3.	-0.07	-0.06
-10.	350.	5000.	14.84	8498.	14.83	8495.	-0.01	-3.	-0.05	-0.04
-10.	400.	1500.	6.71	4424.	6.70	4420.	-0.01	-4.	-0.10	-0.08
-10.	400.	6500.	16.95	11046.	16.94	11041.	-0.01	-5.	-0.07	-0.04

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1500.	6.43	4763.	6.42	4759.	-0.01	-4.	-0.17	-0.08
-10.	450.	8000.	18.79	13725.	18.78	13719.	-0.01	-6.	-0.05	-0.05
-10.	500.	1500.	6.16	5070.	6.15	5065.	-0.01	-5.	-0.14	-0.11
-10.	500.	10000.	21.12	17022.	21.11	17014.	-0.01	-8.	-0.06	-0.05
-10.	550.	1500.	5.91	5346.	5.90	5340.	-0.01	-6.	-0.18	-0.11
-10.	550.	12000.	23.34	20361.	23.33	20347.	-0.01	-14.	-0.06	-0.07
-20.	300.	2000.	7.03	3322.	7.02	3320.	-0.01	-2.	-0.08	-0.05
-20.	300.	6000.	14.78	6934.	14.77	6932.	-0.01	-2.	-0.05	-0.03
-20.	350.	2000.	6.55	3609.	6.54	3607.	-0.01	-2.	-0.09	-0.05
-20.	350.	8000.	17.06	9299.	17.05	9296.	-0.01	-3.	-0.07	-0.03
-20.	400.	2000.	6.12	3851.	6.11	3848.	-0.01	-3.	-0.14	-0.07
-20.	400.	10000.	19.00	11793.	18.99	11788.	-0.01	-5.	-0.06	-0.04
-20.	450.	2000.	5.73	4054.	5.72	4051.	-0.01	-3.	-0.16	-0.07
-20.	450.	12500.	21.30	14777.	21.28	14771.	-0.02	-6.	-0.09	-0.04
-20.	500.	2500.	6.43	5052.	6.43	5049.	-0.00	-3.	-0.03	-0.07
-20.	500.	15000.	23.45	17844.	23.43	17835.	-0.02	-9.	-0.07	-0.05
-20.	550.	2500.	6.08	5247.	6.07	5244.	-0.01	-3.	-0.11	-0.06
-20.	550.	15000.	23.01	18985.	22.99	18973.	-0.02	-12.	-0.09	-0.06
-30.	300.	2500.	6.91	3008.	6.90	3007.	-0.01	-1.	-0.13	-0.04
-30.	300.	9000.	17.22	7430.	17.22	7428.	-0.00	-2.	-0.03	-0.03
-30.	350.	2500.	6.33	3218.	6.33	3216.	-0.00	-2.	-0.00	-0.05
-30.	350.	12000.	19.88	9961.	19.86	9957.	-0.02	-4.	-0.08	-0.04
-30.	400.	2500.	5.83	3387.	5.83	3385.	0.00	-2.	0.00	-0.06
-30.	400.	15000.	22.17	12617.	22.15	12612.	-0.02	-5.	-0.10	-0.04
-30.	450.	3000.	6.29	4101.	6.28	4099.	-0.01	-2.	-0.09	-0.05
-30.	450.	15000.	21.37	13624.	21.35	13618.	-0.02	-6.	-0.08	-0.04
-30.	500.	3000.	5.86	4245.	5.86	4243.	-0.00	-2.	-0.07	-0.05
-30.	500.	15000.	20.66	14523.	20.65	14516.	-0.01	-7.	-0.07	-0.05
-30.	550.	3000.	5.48	4365.	5.48	4362.	-0.00	-3.	-0.08	-0.06
-30.	550.	15000.	20.06	15301.	20.04	15293.	-0.02	-8.	-0.10	-0.05
-40.	300.	2500.	5.96	2300.	5.96	2299.	0.00	-1.	0.01	-0.03
-40.	300.	14500.	21.84	8299.	21.82	8296.	-0.02	-3.	-0.07	-0.04
-40.	350.	3000.	6.28	2823.	6.28	2822.	-0.00	-1.	-0.05	-0.05
-40.	350.	15000.	21.24	9397.	21.23	9394.	-0.01	-3.	-0.06	-0.04
-40.	400.	3000.	5.74	2947.	5.73	2946.	-0.01	-1.	-0.09	-0.04
-40.	400.	15000.	20.24	10205.	20.22	10201.	-0.02	-4.	-0.11	-0.04
-40.	450.	3500.	6.03	3479.	6.02	3477.	-0.01	-2.	-0.09	-0.05
-40.	450.	15000.	19.32	10916.	19.31	10912.	-0.01	-4.	-0.07	-0.04
-40.	500.	3500.	5.58	3578.	5.58	3576.	-0.00	-2.	-0.06	-0.06
-40.	500.	15000.	18.52	11535.	18.50	11531.	-0.02	-4.	-0.11	-0.03

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	5.85	4116.	5.84	4114.	-0.01	-2.	-0.12	-0.04
-40.	550.	15000.	17.82	12062.	17.80	12057.	-0.02	-5.	-0.12	-0.04
-45.	300.	3000.	6.52	2319.	6.52	2319.	-0.00	-0.	-0.07	-0.01
-45.	300.	15000.	21.65	7594.	21.64	7591.	-0.01	-3.	-0.06	-0.03
-45.	350.	3000.	5.89	2444.	5.89	2444.	-0.00	-0.	-0.06	-0.02
-45.	350.	15000.	20.50	8374.	20.48	8371.	-0.02	-3.	-0.10	-0.04
-45.	400.	3500.	6.12	2900.	6.12	2899.	-0.00	-1.	-0.03	-0.02
-45.	400.	15000.	19.44	9056.	19.42	9052.	-0.02	-4.	-0.08	-0.04
-45.	450.	3500.	5.62	2995.	5.62	2994.	-0.00	-1.	-0.08	-0.05
-45.	450.	15000.	18.49	9649.	18.47	9646.	-0.02	-3.	-0.09	-0.03
-45.	500.	4000.	5.84	3455.	5.84	3453.	-0.00	-2.	-0.06	-0.05
-45.	500.	15000.	17.65	10161.	17.63	10157.	-0.02	-4.	-0.10	-0.04
-45.	550.	4500.	6.04	3919.	6.03	3917.	-0.01	-2.	-0.17	-0.04
-45.	550.	15000.	16.92	10592.	16.91	10588.	-0.01	-4.	-0.08	-0.04
-60.	300.	4000.	7.25	1823.	7.25	1823.	-0.00	-0.	-0.01	-0.00
-60.	300.	15000.	20.07	4983.	20.05	4982.	-0.02	-1.	-0.08	-0.03
-60.	350.	4000.	6.53	1915.	6.53	1915.	-0.00	-0.	-0.04	-0.01
-60.	350.	15000.	18.80	5439.	18.78	5437.	-0.02	-2.	-0.08	-0.04
-60.	400.	5000.	7.20	2409.	7.19	2408.	-0.01	-1.	-0.07	-0.04
-60.	400.	15000.	17.66	5825.	17.64	5824.	-0.02	-1.	-0.10	-0.02
-60.	450.	5500.	7.18	2700.	7.18	2699.	-0.00	-1.	-0.06	-0.02
-60.	450.	15000.	16.64	6153.	16.63	6151.	-0.01	-2.	-0.08	-0.03
-60.	500.	6500.	7.69	3208.	7.69	3207.	-0.00	-1.	-0.04	-0.03
-60.	500.	15000.	15.76	6429.	15.74	6427.	-0.02	-2.	-0.13	-0.03
-60.	550.	7000.	7.67	3502.	7.66	3502.	-0.01	-0.	-0.16	-0.01
-60.	550.	15000.	14.99	6657.	14.97	6656.	-0.02	-1.	-0.13	-0.02

WEAPON COEFFICIENTS FOR IDNO 14

CFORM1 = 3.1199999   DKG1 = -.0012230   DM1 = 0.0   VMUZ = 0.   DS = 0.0
CFORM2 = 0.0   DKG2 = 0.0   DM2 = 0.0   FN = 0.   SL = 0.0

ITYPE = -1   IREF = 1   VE = 0.0
IBOTH = 1   DMAX = 5.00   DTI = 3.00

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.95	4378.	8.93	4369.	-0.02	-9.	-0.22	-0.22
10.	300.	3000.	16.79	8088.	16.77	8082.	-0.02	-6.	-0.10	-0.08
10.	350.	500.	9.61	5460.	9.59	5448.	-0.02	-12.	-0.21	-0.23
10.	350.	3000.	17.35	9691.	17.33	9683.	-0.02	-8.	-0.09	-0.09
10.	400.	500.	10.29	6649.	10.27	6633.	-0.02	-16.	-0.19	-0.24
10.	400.	3000.	17.93	11366.	17.91	11355.	-0.02	-11.	-0.13	-0.10
10.	450.	500.	11.00	7945.	10.97	7923.	-0.03	-22.	-0.31	-0.27
10.	450.	3000.	18.51	13112.	18.49	13098.	-0.02	-14.	-0.11	-0.10
10.	500.	500.	11.71	9345.	11.68	9319.	-0.03	-26.	-0.26	-0.28
10.	500.	3000.	19.10	14927.	19.08	14911.	-0.02	-16.	-0.10	-0.11
10.	550.	500.	12.44	10845.	12.40	10817.	-0.04	-28.	-0.29	-0.26
10.	550.	3000.	19.71	16807.	19.68	16788.	-0.03	-19.	-0.15	-0.12
0.	300.	1500.	9.73	4822.	9.71	4816.	-0.02	-6.	-0.17	-0.12
0.	300.	15000.	31.29	14942.	31.26	14933.	-0.03	-9.	-0.11	-0.06
0.	350.	1500.	9.74	5613.	9.72	5605.	-0.02	-8.	-0.18	-0.13
0.	350.	15000.	31.36	17357.	31.33	17347.	-0.03	-10.	-0.11	-0.06
0.	400.	1000.	7.95	5243.	7.93	5231.	-0.02	-12.	-0.30	-0.23
0.	400.	15000.	31.46	19747.	31.42	19734.	-0.04	-13.	-0.13	-0.06
0.	450.	1000.	7.95	5888.	7.93	5872.	-0.02	-16.	-0.24	-0.27
0.	450.	15000.	31.59	22104.	31.55	22089.	-0.04	-15.	-0.11	-0.07
0.	500.	1000.	7.96	6530.	7.94	6510.	-0.02	-20.	-0.30	-0.30
0.	500.	15000.	31.80	24405.	31.76	24388.	-0.04	-17.	-0.13	-0.07
0.	550.	1000.	7.97	7169.	7.94	7146.	-0.03	-23.	-0.36	-0.32
0.	550.	15000.	32.11	26486.	32.06	26466.	-0.05	-20.	-0.16	-0.07
-10.	300.	1000.	5.65	2783.	5.64	2778.	-0.01	-5.	-0.19	-0.20
-10.	300.	4000.	13.45	6515.	13.44	6511.	-0.01	-4.	-0.06	-0.06
-10.	350.	1000.	5.36	3075.	5.35	3068.	-0.01	-7.	-0.26	-0.22
-10.	350.	5000.	14.99	8403.	14.97	8398.	-0.02	-5.	-0.12	-0.06
-10.	400.	1000.	5.09	3333.	5.07	3324.	-0.02	-9.	-0.33	-0.27
-10.	400.	6500.	17.16	10892.	17.14	10885.	-0.02	-7.	-0.11	-0.06

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1500.	6.47	4740.	6.46	4731.	-0.01	-9.	-0.19	-0.20
-10.	450.	8000.	19.07	13497.	19.05	13489.	-0.02	-8.	-0.09	-0.06
-10.	500.	1500.	6.21	5045.	6.19	5033.	-0.02	-12.	-0.29	-0.23
-10.	500.	9500.	20.83	16206.	20.81	16197.	-0.02	-9.	-0.10	-0.05
-10.	550.	1500.	5.96	5320.	5.94	5306.	-0.02	-14.	-0.31	-0.26
-10.	550.	11500.	23.27	19380.	23.25	19363.	-0.02	-17.	-0.09	-0.09
-20.	300.	1500.	5.72	2687.	5.71	2684.	-0.01	-3.	-0.16	-0.12
-20.	300.	6000.	14.93	6873.	14.92	6870.	-0.01	-3.	-0.10	-0.04
-20.	350.	1500.	5.29	2896.	5.28	2892.	-0.01	-4.	-0.22	-0.15
-20.	350.	7500.	16.57	8833.	16.56	8828.	-0.01	-5.	-0.09	-0.05
-20.	400.	1500.	4.91	3068.	4.89	3062.	-0.02	-6.	-0.33	-0.20
-20.	400.	10000.	19.30	11636.	19.28	11630.	-0.02	-6.	-0.10	-0.05
-20.	450.	2000.	5.77	4042.	5.76	4035.	-0.01	-7.	-0.19	-0.16
-20.	450.	12500.	21.71	14545.	21.68	14538.	-0.03	-7.	-0.12	-0.05
-20.	500.	2000.	5.42	4214.	5.41	4206.	-0.01	-8.	-0.24	-0.18
-20.	500.	15000.	24.09	17498.	24.06	17487.	-0.03	-11.	-0.14	-0.06
-20.	550.	2000.	5.10	4360.	5.09	4351.	-0.01	-9.	-0.23	-0.20
-20.	550.	15000.	23.83	18510.	23.77	18497.	-0.06	-13.	-0.24	-0.07
-30.	300.	2000.	5.83	2525.	5.82	2522.	-0.01	-3.	-0.10	-0.11
-30.	300.	9000.	17.44	7361.	17.43	7358.	-0.01	-3.	-0.07	-0.04
-30.	350.	2000.	5.32	2684.	5.31	2680.	-0.01	-4.	-0.22	-0.14
-30.	350.	12000.	20.20	9845.	20.17	9841.	-0.03	-4.	-0.13	-0.04
-30.	400.	2000.	4.87	2809.	4.86	2805.	-0.01	-4.	-0.15	-0.15
-30.	400.	15000.	22.61	12445.	22.58	12440.	-0.03	-5.	-0.12	-0.04
-30.	450.	2500.	5.44	3516.	5.43	3511.	-0.01	-5.	-0.19	-0.14
-30.	450.	15000.	21.88	13431.	21.85	13424.	-0.03	-7.	-0.14	-0.05
-30.	500.	2500.	5.05	3627.	5.04	3622.	-0.01	-5.	-0.14	-0.15
-30.	500.	15000.	21.29	14294.	21.24	14287.	-0.05	-7.	-0.22	-0.05
-30.	550.	2500.	4.72	3719.	4.70	3713.	-0.02	-6.	-0.40	-0.17
-30.	550.	15000.	20.88	14983.	20.80	14978.	-0.08	-5.	-0.38	-0.03
-40.	300.	2500.	6.00	2296.	5.99	2294.	-0.01	-2.	-0.15	-0.09
-40.	300.	14500.	22.19	8207.	22.17	8203.	-0.02	-4.	-0.09	-0.04
-40.	350.	2500.	5.43	2421.	5.42	2418.	-0.01	-3.	-0.27	-0.11
-40.	350.	15000.	21.63	9291.	21.61	9287.	-0.02	-4.	-0.11	-0.04
-40.	400.	3000.	5.78	2941.	5.77	2939.	-0.01	-2.	-0.09	-0.08
-40.	400.	15000.	20.65	10089.	20.63	10085.	-0.02	-4.	-0.12	-0.04
-40.	450.	3000.	5.32	3040.	5.31	3037.	-0.01	-3.	-0.27	-0.11
-40.	450.	15000.	19.80	10789.	19.77	10785.	-0.03	-4.	-0.16	-0.04
-40.	500.	3500.	5.64	3571.	5.62	3567.	-0.02	-4.	-0.27	-0.11
-40.	500.	15000.	19.11	11385.	19.06	11381.	-0.05	-4.	-0.26	-0.04

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	5.92	4107.	5.91	4103.	-0.01	-4.	-0.23	-0.09
-40.	550.	15000.	18.61	11851.	18.52	11851.	-0.09	0.	-0.46	0.00
-45.	300.	2500.	5.64	1993.	5.63	1992.	-0.01	-1.	-0.18	-0.07
-45.	300.	15000.	22.01	7513.	21.99	7510.	-0.02	-3.	-0.11	-0.03
-45.	350.	3000.	5.93	2440.	5.92	2438.	-0.01	-2.	-0.12	-0.08
-45.	350.	15000.	20.87	8286.	20.85	8283.	-0.02	-3.	-0.12	-0.04
-45.	400.	3000.	5.40	2536.	5.39	2534.	-0.01	-2.	-0.22	-0.08
-45.	400.	15000.	19.84	8961.	19.82	8958.	-0.02	-3.	-0.12	-0.03
-45.	450.	3500.	5.67	2990.	5.66	2987.	-0.01	-3.	-0.18	-0.11
-45.	450.	15000.	18.95	9547.	18.92	9543.	-0.03	-4.	-0.16	-0.04
-45.	500.	4000.	5.90	3448.	5.89	3445.	-0.01	-3.	-0.17	-0.08
-45.	500.	15000.	18.23	10039.	18.18	10036.	-0.05	-3.	-0.30	-0.03
-45.	550.	4500.	6.12	3910.	6.10	3907.	-0.02	-3.	-0.34	-0.08
-45.	550.	15000.	17.70	10421.	17.61	10423.	-0.09	2.	-0.53	0.02
-60.	300.	4000.	7.31	1819.	7.30	1819.	-0.01	-0.	-0.16	-0.02
-60.	300.	15000.	20.41	4938.	20.38	4936.	-0.03	-2.	-0.14	-0.04
-60.	350.	4000.	6.58	1912.	6.57	1911.	-0.01	-1.	-0.08	-0.07
-60.	350.	15000.	19.14	5391.	19.12	5389.	-0.02	-2.	-0.10	-0.03
-60.	400.	5000.	7.27	2403.	7.26	2402.	-0.01	-1.	-0.13	-0.05
-60.	400.	15000.	18.03	5776.	18.00	5774.	-0.03	-2.	-0.16	-0.03
-60.	450.	5500.	7.26	2694.	7.25	2692.	-0.01	-2.	-0.14	-0.06
-60.	450.	15000.	17.06	6101.	17.03	6099.	-0.03	-2.	-0.17	-0.04
-60.	500.	6500.	7.80	3200.	7.78	3198.	-0.02	-2.	-0.23	-0.06
-60.	500.	15000.	16.29	6367.	16.23	6366.	-0.06	-1.	-0.35	-0.02
-60.	550.	7000.	7.81	3492.	7.79	3490.	-0.02	-2.	-0.27	-0.06
-60.	550.	15000.	15.72	6570.	15.61	6573.	-0.11	3.	-0.67	0.04

WEAPON COEFFICIENTS FOR IDNO 15

CFORM1 = 3.4971991   DKG1 = 0.0   DM1 = 0.0   VMUZ =   0.   DS = 0.0
CFORM2 = 0.0   DKG2 = 0.0   DM2 = 0.0   FN =   0.   SL = 0.0

ITYPE = -1   IREF = 1   VE = 0.0
IBOTH = 1   DMAX = 3.00   DTI = 2.00

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.95	4342.	8.94	4335.	-0.01	-7.	-0.08	-0.16
10.	300.	3000.	16.85	7990.	16.84	7981.	-0.01	-9.	-0.06	-0.12
10.	350.	500.	9.61	5402.	9.60	5392.	-0.01	-10.	-0.09	-0.18
10.	350.	3000.	17.41	9549.	17.41	9535.	-0.00	-14.	-0.02	-0.14
10.	400.	500.	10.29	6560.	10.28	6547.	-0.01	-13.	-0.12	-0.19
10.	400.	3000.	17.99	11168.	17.98	11150.	-0.01	-18.	-0.04	-0.16
10.	450.	500.	10.98	7815.	10.97	7798.	-0.01	-17.	-0.10	-0.22
10.	450.	3000.	18.57	12845.	18.57	12822.	-0.00	-23.	-0.02	-0.18
10.	500.	500.	11.69	9163.	11.67	9140.	-0.02	-23.	-0.14	-0.25
10.	500.	3000.	19.17	14577.	19.16	14548.	-0.01	-29.	-0.07	-0.20
10.	550.	500.	12.41	10598.	12.39	10570.	-0.02	-28.	-0.18	-0.26
10.	550.	3000.	19.77	16360.	19.75	16324.	-0.02	-36.	-0.08	-0.22
0.	300.	1000.	7.95	3926.	7.95	3922.	-0.00	-4.	-0.04	-0.11
0.	300.	15000.	31.62	14707.	31.61	14684.	-0.01	-23.	-0.03	-0.15
0.	350.	1000.	7.96	4568.	7.96	4562.	-0.00	-6.	-0.05	-0.12
0.	350.	15000.	31.71	17053.	31.70	17024.	-0.01	-29.	-0.04	-0.17
0.	400.	1000.	7.97	5207.	7.97	5199.	-0.00	-8.	-0.05	-0.15
0.	400.	15000.	31.81	19366.	31.80	19332.	-0.01	-34.	-0.03	-0.18
0.	450.	1000.	7.98	5842.	7.98	5832.	-0.00	-10.	-0.06	-0.17
0.	450.	15000.	31.93	21643.	31.93	21603.	-0.00	-40.	-0.01	-0.19
0.	500.	1000.	7.99	6473.	7.99	6462.	-0.00	-11.	-0.06	-0.17
0.	500.	15000.	32.11	23873.	32.10	23827.	-0.01	-46.	-0.03	-0.19
0.	550.	1000.	8.00	7101.	7.99	7088.	-0.01	-13.	-0.07	-0.19
0.	550.	15000.	32.37	25937.	32.36	25889.	-0.01	-48.	-0.04	-0.19
-10.	300.	1000.	5.67	2776.	5.67	2773.	-0.00	-3.	-0.09	-0.11
-10.	300.	3500.	12.50	5991.	12.50	5986.	-0.00	-5.	-0.02	-0.08
-10.	350.	1000.	5.38	3067.	5.37	3064.	-0.01	-3.	-0.10	-0.11
-10.	350.	5000.	15.10	8328.	15.10	8320.	0.00	-8.	0.01	-0.10
-10.	400.	1000.	5.11	3324.	5.10	3320.	-0.01	-4.	-0.11	-0.13
-10.	400.	6000.	16.51	10289.	16.51	10278.	-0.00	-11.	-0.02	-0.11

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	4.86	3551.	4.85	3546.	-0.01	-5.	-0.13	-0.14
-10.	450.	7500.	18.55	12836.	18.55	12821.	0.00	-15.	0.02	-0.12
-10.	500.	1000.	4.63	3751.	4.62	3746.	-0.01	-5.	-0.21	-0.14
-10.	500.	9000.	20.41	15479.	20.41	15458.	-0.00	-21.	-0.02	-0.13
-10.	550.	1000.	4.41	3928.	4.40	3922.	-0.01	-6.	-0.15	-0.15
-10.	550.	11000.	22.88	18624.	22.88	18595.	-0.00	-29.	-0.01	-0.15
-20.	300.	1500.	5.74	2682.	5.74	2680.	0.00	-2.	0.01	-0.07
-20.	300.	5500.	14.22	6466.	14.22	6461.	0.00	-5.	0.01	-0.08
-20.	350.	1500.	5.31	2891.	5.31	2888.	-0.00	-3.	-0.01	-0.09
-20.	350.	7500.	16.74	8757.	16.74	8749.	-0.00	-8.	-0.02	-0.09
-20.	400.	1500.	4.93	3062.	4.93	3060.	-0.00	-2.	-0.07	-0.08
-20.	400.	9500.	18.89	11151.	18.89	11140.	0.00	-11.	0.02	-0.10
-20.	450.	1500.	4.59	3204.	4.59	3201.	-0.00	-3.	-0.09	-0.09
-20.	450.	11500.	20.81	13643.	20.81	13628.	0.00	-15.	0.01	-0.11
-20.	500.	1500.	4.28	3322.	4.28	3319.	0.00	-3.	0.05	-0.10
-20.	500.	14000.	23.24	16566.	23.25	16546.	0.01	-20.	0.02	-0.12
-20.	550.	2000.	5.14	4351.	5.13	4347.	-0.01	-4.	-0.10	-0.09
-20.	550.	15000.	24.08	18292.	24.09	18264.	0.01	-28.	0.03	-0.15
-30.	300.	1500.	4.64	2004.	4.64	2003.	-0.00	-1.	-0.04	-0.05
-30.	300.	8500.	16.95	7041.	16.95	7036.	0.00	-5.	0.01	-0.07
-30.	350.	2000.	5.34	2679.	5.34	2678.	0.00	-1.	0.03	-0.05
-30.	350.	11500.	19.87	9490.	19.87	9481.	0.00	-9.	0.00	-0.09
-30.	400.	2000.	4.90	2805.	4.90	2803.	-0.00	-2.	-0.08	-0.07
-30.	400.	14500.	22.39	12047.	22.39	12034.	-0.00	-13.	-0.00	-0.11
-30.	450.	2000.	4.51	2905.	4.51	2903.	0.00	-2.	0.00	-0.07
-30.	450.	15000.	22.17	13291.	22.17	13276.	0.00	-15.	0.02	-0.11
-30.	500.	2500.	5.09	3622.	5.09	3619.	-0.00	-3.	-0.07	-0.08
-30.	500.	15000.	21.55	14155.	21.55	14140.	0.00	-15.	0.01	-0.11
-30.	550.	2500.	4.75	3714.	4.75	3711.	-0.00	-3.	-0.09	-0.08
-30.	550.	15000.	21.10	14851.	21.10	14833.	0.00	-18.	0.02	-0.12
-40.	300.	2500.	6.03	2292.	6.03	2291.	-0.00	-1.	-0.05	-0.03
-40.	300.	13500.	21.41	7767.	21.41	7759.	-0.00	-8.	-0.01	-0.10
-40.	350.	2500.	5.45	2417.	5.45	2416.	0.00	-1.	0.02	-0.03
-40.	350.	15000.	21.92	9206.	21.92	9197.	0.00	-9.	0.02	-0.10
-40.	400.	3000.	5.82	2937.	5.82	2935.	-0.00	-2.	-0.02	-0.06
-40.	400.	15000.	20.94	9999.	20.94	9990.	0.00	-9.	0.00	-0.09
-40.	450.	3000.	5.35	3036.	5.35	3034.	-0.00	-2.	-0.01	-0.06
-40.	450.	15000.	20.07	10699.	20.07	10689.	0.00	-10.	0.00	-0.09
-40.	500.	3500.	5.68	3565.	5.68	3563.	-0.00	-2.	-0.04	-0.05
-40.	500.	15000.	19.34	11299.	19.35	11288.	0.01	-11.	0.03	-0.09

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	5.97	4100.	5.97	4098.	-0.00	-2.	-0.00	-0.05
-40.	550.	15000.	18.80	11773.	18.81	11760.	0.01	-13.	0.04	-0.11
-45.	300.	2500.	5.67	1991.	5.66	1990.	-0.01	-1.	-0.13	-0.07
-45.	300.	15000.	22.29	7448.	22.30	7441.	0.01	-7.	0.02	-0.09
-45.	350.	3000.	5.97	2436.	5.96	2435.	-0.01	-1.	-0.10	-0.03
-45.	350.	15000.	21.15	8215.	21.16	8208.	0.01	-7.	0.03	-0.08
-45.	400.	3000.	5.43	2533.	5.43	2532.	-0.00	-1.	-0.03	-0.04
-45.	400.	15000.	20.12	8888.	20.12	8881.	0.00	-7.	0.01	-0.08
-45.	450.	3500.	5.71	2985.	5.71	2984.	-0.00	-1.	-0.03	-0.04
-45.	450.	15000.	19.21	9474.	19.21	9466.	-0.00	-8.	-0.00	-0.08
-45.	500.	4000.	5.95	3443.	5.95	3441.	-0.00	-2.	-0.04	-0.06
-45.	500.	15000.	18.45	9971.	18.45	9963.	0.00	-8.	0.01	-0.08
-45.	550.	4500.	6.17	3904.	6.17	3902.	-0.00	-2.	-0.04	-0.06
-45.	550.	15000.	17.87	10361.	17.89	10351.	0.02	-10.	0.09	-0.10
-60.	300.	4000.	7.35	1816.	7.35	1816.	0.00	-0.	0.01	-0.03
-60.	300.	15000.	20.67	4901.	20.67	4897.	0.00	-4.	0.01	-0.08
-60.	350.	4000.	6.63	1909.	6.63	1908.	-0.00	-1.	-0.07	-0.05
-60.	350.	15000.	19.41	5353.	19.41	5349.	-0.00	-4.	-0.02	-0.08
-60.	400.	5000.	7.33	2399.	7.33	2398.	-0.00	-1.	-0.03	-0.05
-60.	400.	15000.	18.28	5738.	18.28	5734.	-0.00	-4.	-0.02	-0.06
-60.	450.	5500.	7.33	2689.	7.32	2688.	-0.01	-1.	-0.08	-0.04
-60.	450.	15000.	17.29	6065.	17.29	6061.	0.00	-4.	0.03	-0.07
-60.	500.	6500.	7.88	3193.	7.87	3192.	-0.01	-1.	-0.06	-0.04
-60.	500.	15000.	16.48	6334.	16.48	6330.	0.00	-4.	0.02	-0.06
-60.	550.	7000.	7.89	3485.	7.89	3483.	0.00	-2.	0.01	-0.06
-60.	550.	15000.	15.86	6543.	15.87	6537.	0.01	-6.	0.05	-0.09

WEAPON COEFFICIENTS FOR IDNO 16

CFORM1 = 1.6049995	DKG1 = 0.0	DM1 = 0.0	VMUZ = 0.	DS = 0.0
CFORM2 = 0.0	DKG2 = 0.0	DM2 = 0.0	FN = 0.	SL = 0.0
ITYPE = -1	IREF = 1	VE = 0.0		
IBOTH = 1	DMAX = 5.00	DTI = 3.00		

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.95	4412.	8.93	4397.	-0.02	-15.	-0.18	-0.35
10.	300.	3000.	16.74	8181.	16.74	8151.	-0.00	-30.	-0.01	-0.36
10.	350.	500.	9.61	5515.	9.60	5492.	-0.01	-23.	-0.14	-0.42
10.	350.	3000.	17.29	9826.	17.30	9784.	0.01	-42.	0.04	-0.43
10.	400.	500.	10.30	6733.	10.28	6700.	-0.02	-33.	-0.19	-0.49
10.	400.	3000.	17.87	11555.	17.87	11497.	-0.00	-58.	-0.01	-0.50
10.	450.	500.	11.01	8068.	10.98	8021.	-0.03	-47.	-0.25	-0.59
10.	450.	3000.	18.45	13369.	18.45	13290.	-0.00	-79.	-0.00	-0.59
10.	500.	500.	11.73	9520.	11.70	9455.	-0.03	-65.	-0.23	-0.68
10.	500.	3000.	19.04	15266.	19.04	15163.	0.00	-103.	0.01	-0.67
10.	550.	500.	12.47	11087.	12.44	11002.	-0.03	-85.	-0.27	-0.76
10.	550.	3000.	19.65	17246.	19.64	17114.	-0.01	-132.	-0.03	-0.76
10.	600.	500.	13.20	12701.	13.15	12566.	-0.05	-135.	-0.39	-1.06
10.	600.	3000.	20.26	19185.	20.24	18994.	-0.02	-191.	-0.11	-0.99
10.	650.	500.	13.89	14192.	13.80	13968.	-0.09	-224.	-0.66	-1.58
10.	650.	3000.	20.85	20859.	20.80	20577.	-0.05	-282.	-0.22	-1.35
0.	300.	1500.	9.70	4851.	9.70	4839.	-0.00	-12.	-0.04	-0.24
0.	300.	15000.	30.98	15164.	31.03	15096.	0.05	-68.	0.17	-0.45
0.	350.	1500.	9.70	5652.	9.70	5636.	0.00	-16.	0.02	-0.28
0.	350.	15000.	31.03	17647.	31.09	17559.	0.06	-88.	0.18	-0.50
0.	400.	1500.	9.71	6451.	9.71	6431.	-0.00	-20.	-0.02	-0.31
0.	400.	15000.	31.10	20112.	31.16	20003.	0.06	-109.	0.18	-0.54
0.	450.	1000.	7.92	5930.	7.92	5908.	-0.00	-22.	-0.04	-0.37
0.	450.	15000.	31.20	22555.	31.26	22421.	0.06	-134.	0.20	-0.59
0.	500.	1000.	7.93	6582.	7.92	6555.	-0.01	-27.	-0.13	-0.41
0.	500.	15000.	31.35	24955.	31.43	24793.	0.08	-162.	0.25	-0.65
0.	550.	1000.	7.93	7232.	7.92	7200.	-0.01	-32.	-0.08	-0.45
0.	550.	15000.	31.58	27205.	31.67	27000.	0.09	-205.	0.30	-0.75
0.	600.	1000.	7.95	7857.	7.93	7805.	-0.02	-52.	-0.20	-0.66
0.	600.	15000.	31.86	29100.	31.97	28818.	0.11	-282.	0.34	-0.97

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	650.	1000.	7.98	8427.	7.96	8332.	-0.02	-95.	-0.28	-1.13
0.	650.	15000.	32.14	30700.	32.26	30303.	0.12	-397.	0.39	-1.29
-10.	300.	1500.	7.34	3625.	7.34	3619.	-0.00	-6.	-0.03	-0.17
-10.	300.	4000.	13.38	6559.	13.39	6544.	0.01	-15.	0.06	-0.22
-10.	350.	1500.	7.02	4042.	7.02	4034.	-0.00	-8.	-0.00	-0.19
-10.	350.	5000.	14.88	8474.	14.90	8451.	0.02	-23.	0.11	-0.27
-10.	400.	1500.	6.72	4418.	6.72	4409.	-0.00	-9.	-0.01	-0.21
-10.	400.	6500.	17.00	11006.	17.03	10971.	0.03	-35.	0.17	-0.32
-10.	450.	1500.	6.44	4757.	6.44	4746.	-0.00	-11.	-0.05	-0.22
-10.	450.	8000.	18.86	13666.	18.90	13615.	0.04	-51.	0.23	-0.38
-10.	500.	1500.	6.17	5063.	6.17	5051.	-0.00	-12.	-0.00	-0.25
-10.	500.	10000.	21.22	16935.	21.27	16862.	0.05	-73.	0.25	-0.43
-10.	550.	1500.	5.92	5339.	5.92	5325.	-0.00	-14.	-0.03	-0.27
-10.	550.	12000.	23.49	20226.	23.57	20116.	0.08	-110.	0.35	-0.54
-10.	600.	1500.	5.70	5580.	5.70	5559.	-0.00	-21.	-0.04	-0.38
-10.	600.	14000.	25.77	23353.	25.90	23165.	0.13	-188.	0.50	-0.81
-10.	650.	1500.	5.51	5787.	5.52	5746.	0.01	-41.	0.09	-0.70
-10.	650.	15000.	26.89	25393.	27.06	25111.	0.17	-282.	0.62	-1.11
-20.	300.	1500.	5.70	2692.	5.70	2689.	-0.00	-3.	-0.02	-0.12
-20.	300.	6000.	14.82	6918.	14.84	6904.	0.02	-14.	0.12	-0.20
-20.	350.	1500.	5.27	2901.	5.27	2897.	-0.00	-4.	-0.08	-0.14
-20.	350.	8000.	17.11	9273.	17.14	9249.	0.03	-24.	0.20	-0.26
-20.	400.	2000.	6.13	3847.	6.13	3841.	-0.00	-6.	-0.03	-0.14
-20.	400.	10000.	19.08	11752.	19.12	11717.	0.04	-35.	0.21	-0.30
-20.	450.	2000.	5.74	4051.	5.74	4044.	-0.00	-7.	-0.04	-0.17
-20.	450.	12500.	21.40	14717.	21.46	14666.	0.06	-51.	0.29	-0.35
-20.	500.	2000.	5.39	4223.	5.39	4215.	-0.00	-8.	-0.09	-0.18
-20.	500.	15000.	23.62	17755.	23.71	17680.	0.09	-75.	0.37	-0.42
-20.	550.	2000.	5.07	4369.	5.07	4361.	-0.00	-8.	-0.06	-0.19
-20.	550.	15000.	23.22	18866.	23.33	18770.	0.11	-96.	0.48	-0.51
-20.	600.	2000.	4.80	4490.	4.79	4478.	-0.01	-12.	-0.15	-0.27
-20.	600.	15000.	22.91	19793.	23.06	19655.	0.15	-138.	0.66	-0.70
-20.	650.	2000.	4.56	4590.	4.57	4567.	0.01	-23.	0.21	-0.51
-20.	650.	15000.	22.65	20582.	22.83	20404.	0.18	-178.	0.80	-0.86
-30.	300.	2000.	5.81	2529.	5.81	2526.	-0.00	-3.	-0.00	-0.13
-30.	300.	9000.	17.28	7412.	17.31	7396.	0.03	-16.	0.18	-0.21
-30.	350.	2000.	5.29	2687.	5.29	2684.	0.00	-3.	0.07	-0.11
-30.	350.	12000.	19.96	9931.	20.00	9905.	0.04	-26.	0.22	-0.26
-30.	400.	2500.	5.85	3385.	5.85	3380.	-0.00	-5.	-0.04	-0.14
-30.	400.	15000.	22.28	12573.	22.34	12534.	0.06	-39.	0.28	-0.31

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-30.	450.	2500.	5.41	3521.	5.41	3516.	-0.00	-5.	-0.02	-0.13
-30.	450.	15000.	21.50	13574.	21.57	13531.	0.07	-43.	0.33	-0.31
-30.	500.	2500.	5.02	3632.	5.02	3627.	0.00	-5.	0.05	-0.13
-30.	500.	15000.	20.82	14465.	20.91	14416.	0.09	-49.	0.41	-0.34
-30.	550.	3000.	5.50	4362.	5.50	4356.	-0.00	-6.	-0.03	-0.13
-30.	550.	15000.	20.26	15225.	20.37	15162.	0.11	-63.	0.53	-0.42
-30.	600.	3000.	5.18	4459.	5.18	4451.	-0.00	-8.	-0.06	-0.19
-30.	600.	15000.	19.80	15855.	19.94	15766.	0.14	-89.	0.72	-0.56
-30.	650.	3500.	5.65	5194.	5.66	5177.	0.01	-17.	0.18	-0.33
-30.	650.	15000.	19.36	16401.	19.55	16287.	0.19	-114.	0.99	-0.70
-40.	300.	2500.	5.97	2299.	5.97	2297.	0.00	-2.	0.07	-0.09
-40.	300.	15000.	22.43	8460.	22.48	8438.	0.05	-22.	0.24	-0.26
-40.	350.	2500.	5.40	2424.	5.40	2421.	-0.00	-3.	-0.01	-0.11
-40.	350.	15000.	21.34	9370.	21.40	9346.	0.06	-24.	0.27	-0.26
-40.	400.	3000.	5.72	2946.	5.75	2943.	0.03	-3.	0.57	-0.12
-40.	400.	15000.	20.34	10175.	20.40	10149.	0.06	-26.	0.29	-0.26
-40.	450.	3000.	5.28	3044.	5.28	3041.	0.00	-3.	0.09	-0.11
-40.	450.	15000.	19.44	10833.	19.51	10855.	0.07	22.	0.34	0.21
-40.	500.	3500.	5.60	3576.	5.60	3572.	-0.00	-4.	-0.03	-0.11
-40.	500.	15000.	18.66	11498.	18.74	11466.	0.08	-32.	0.42	-0.28
-40.	550.	4000.	5.87	4114.	5.87	4110.	0.00	-4.	0.02	-0.11
-40.	550.	15000.	18.00	12013.	18.11	11972.	0.11	-41.	0.59	-0.34
-40.	600.	4500.	6.14	4653.	6.14	4646.	0.00	-7.	0.06	-0.14
-40.	600.	15000.	17.45	12437.	17.59	12380.	0.14	-57.	0.79	-0.46
-40.	650.	5000.	6.42	5190.	6.44	5177.	0.02	-13.	0.32	-0.25
-40.	650.	15000.	16.91	12809.	17.09	12736.	0.18	-73.	1.09	-0.57
-45.	300.	2500.	5.61	1996.	5.61	1994.	0.00	-2.	0.08	-0.11
-45.	300.	15000.	21.74	7574.	21.79	7555.	0.05	-19.	0.25	-0.25
-45.	350.	3000.	5.90	2443.	5.90	2441.	0.00	-2.	0.05	-0.08
-45.	350.	15000.	20.59	8351.	20.64	8331.	0.05	-20.	0.26	-0.24
-45.	400.	3000.	5.37	2539.	5.37	2537.	-0.00	-2.	-0.02	-0.08
-45.	400.	15000.	19.54	9031.	19.60	9010.	0.06	-21.	0.30	-0.23
-45.	450.	3500.	5.63	2993.	5.64	2991.	0.01	-2.	0.09	-0.08
-45.	450.	15000.	18.60	9623.	18.67	9600.	0.07	-23.	0.37	-0.24
-45.	500.	4000.	5.86	3453.	5.86	3450.	0.00	-3.	0.01	-0.10
-45.	500.	15000.	17.79	10131.	17.86	10105.	0.07	-26.	0.42	-0.26
-45.	550.	4500.	6.06	3916.	6.06	3913.	0.00	-3.	0.00	-0.08
-45.	550.	15000.	17.10	10553.	17.20	10521.	0.10	-32.	0.58	-0.31
-45.	600.	5500.	6.84	4764.	6.84	4758.	0.00	-6.	0.07	-0.13
-45.	600.	15000.	16.52	10900.	16.65	10855.	0.13	-45.	0.81	-0.42

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	650.	6000.	7.04	5228.	7.07	5215.	0.03	-13.	0.38	-0.24
-45.	650.	15000.	15.95	11205.	16.13	11147.	0.18	-58.	1.12	-0.51
-60.	300.	4000.	7.27	1822.	7.27	1821.	0.00	-1.	0.02	-0.06
-60.	300.	15000.	20.16	4972.	20.20	4961.	0.04	-11.	0.20	-0.22
-60.	350.	4000.	6.55	1914.	6.55	1913.	-0.00	-1.	-0.02	-0.06
-60.	350.	15000.	18.89	5426.	18.94	5415.	0.05	-11.	0.24	-0.19
-60.	400.	5000.	7.22	2407.	7.22	2405.	0.00	-2.	0.06	-0.07
-60.	400.	15000.	17.75	5813.	17.80	5802.	0.05	-11.	0.28	-0.20
-60.	450.	5500.	7.20	2699.	7.21	2696.	0.01	-3.	0.12	-0.10
-60.	450.	15000.	16.75	6140.	16.80	6128.	0.05	-12.	0.29	-0.19
-60.	500.	6500.	7.72	3206.	7.73	3203.	0.01	-3.	0.12	-0.09
-60.	500.	15000.	15.88	6414.	15.95	6401.	0.07	-13.	0.42	-0.20
-60.	550.	7000.	7.70	3500.	7.71	3497.	0.01	-3.	0.16	-0.09
-60.	550.	15000.	15.15	6638.	15.24	6622.	0.09	-16.	0.57	-0.24
-60.	600.	8500.	8.69	4229.	8.71	4223.	0.02	-6.	0.25	-0.15
-60.	600.	15000.	14.52	6821.	14.64	6799.	0.12	-22.	0.80	-0.32
-60.	650.	9500.	9.17	4738.	9.23	4727.	0.06	-11.	0.63	-0.24
-60.	650.	15000.	13.90	6982.	14.06	6954.	0.16	-28.	1.15	-0.40

WEAPON COEFFICIENTS FOR IDNO 17

CFORM1 = 0.0   DKG1 = 0.0073290   DM1 = 0.0   VMUZ = 0.   DS = 0.0
CFORM2 = 0.0   DKG2 = 0.0   DM2 = 0.0   FN = 0.   SL = 0.0

ITYPE = -1   IREF = 4   VE = 0.0
IBOTH = 1   DMAX = 3.00   DTI = 1.00

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	8.96	4299.	8.95	4297.	-0.01	-2.	-0.14	-0.04
10.	300.	3000.	16.91	7877.	16.90	7880.	-0.01	3.	-0.04	0.04
10.	350.	500.	9.61	5335.	9.60	5332.	-0.01	-3.	-0.08	-0.05
10.	350.	3000.	17.48	9388.	17.47	9390.	-0.01	2.	-0.04	0.02
10.	400.	500.	10.28	6461.	10.27	6457.	-0.01	-4.	-0.06	-0.06
10.	400.	3000.	18.06	10948.	18.05	10949.	-0.01	1.	-0.06	0.01
10.	450.	500.	10.97	7674.	10.96	7667.	-0.01	-7.	-0.10	-0.09
10.	450.	3000.	18.65	12556.	18.63	12553.	-0.02	-3.	-0.08	-0.02
10.	500.	500.	11.67	8970.	11.66	8959.	-0.01	-11.	-0.13	-0.13
10.	500.	3000.	19.24	14208.	19.22	14199.	-0.02	-9.	-0.08	-0.06
10.	550.	500.	12.37	10340.	12.36	10325.	-0.01	-15.	-0.10	-0.15
10.	550.	3000.	19.83	15898.	19.82	15883.	-0.01	-15.	-0.06	-0.10
0.	300.	1500.	9.80	4755.	9.79	4755.	-0.01	-0.	-0.12	-0.01
0.	300.	15000.	31.99	14440.	31.97	14440.	-0.02	0.	-0.07	0.00
0.	350.	1000.	7.99	4536.	7.98	4533.	-0.01	-3.	-0.10	-0.07
0.	350.	15000.	32.10	16711.	32.07	16709.	-0.03	-2.	-0.08	-0.01
0.	400.	1000.	8.00	5165.	8.00	5161.	-0.00	-4.	-0.06	-0.08
0.	400.	15000.	32.20	18945.	32.18	18938.	-0.02	-7.	-0.06	-0.04
0.	450.	1000.	8.02	5791.	8.01	5784.	-0.01	-7.	-0.15	-0.11
0.	450.	15000.	32.31	21143.	32.29	21128.	-0.02	-15.	-0.05	-0.07
0.	500.	1000.	8.03	6412.	8.02	6403.	-0.01	-9.	-0.11	-0.14
0.	500.	15000.	32.42	23302.	32.41	23279.	-0.01	-23.	-0.05	-0.10
0.	550.	1000.	8.04	7029.	8.03	7017.	-0.01	-12.	-0.08	-0.17
0.	550.	15000.	32.54	25414.	32.52	25393.	-0.02	-21.	-0.07	-0.08
-10.	300.	1000.	5.69	2767.	5.68	2765.	-0.01	-2.	-0.11	-0.07
-10.	300.	3500.	12.58	5944.	12.58	5944.	-0.00	0.	-0.03	0.00
-10.	350.	1000.	5.40	3058.	5.40	3055.	-0.00	-3.	-0.08	-0.11
-10.	350.	5000.	15.24	8241.	15.23	8241.	-0.01	-0.	-0.08	-0.00
-10.	400.	1000.	5.13	3314.	5.13	3310.	-0.00	-4.	-0.06	-0.12
-10.	400.	6000.	16.68	10163.	16.67	10161.	-0.01	-2.	-0.05	-0.01

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1000.	4.88	3540.	4.88	3535.	-0.00	-5.	-0.06	-0.14
-10.	450.	7500.	18.78	12651.	18.78	12646.	-0.00	-5.	-0.01	-0.04
-10.	500.	1000.	4.65	3741.	4.64	3734.	-0.01	-7.	-0.12	-0.18
-10.	500.	9000.	20.69	15225.	20.69	15215.	-0.00	-10.	-0.02	-0.07
-10.	550.	1000.	4.43	3918.	4.43	3910.	-0.00	-8.	-0.04	-0.20
-10.	550.	10500.	22.45	17874.	22.45	17863.	-0.00	-11.	-0.02	-0.06
-20.	300.	1500.	5.77	2676.	5.76	2674.	-0.01	-2.	-0.10	-0.07
-20.	300.	5500.	14.35	6415.	14.34	6416.	-0.01	1.	-0.08	0.01
-20.	350.	1500.	5.34	2884.	5.33	2882.	-0.01	-2.	-0.11	-0.06
-20.	350.	7500.	16.93	8669.	16.92	8669.	-0.01	-0.	-0.08	-0.00
-20.	400.	1500.	4.96	3056.	4.95	3053.	-0.01	-3.	-0.17	-0.08
-20.	400.	9500.	19.15	11019.	19.14	11016.	-0.01	-3.	-0.05	-0.02
-20.	450.	1500.	4.62	3198.	4.61	3195.	-0.01	-3.	-0.20	-0.10
-20.	450.	11500.	21.13	13461.	21.12	13454.	-0.01	-7.	-0.05	-0.05
-20.	500.	2000.	5.50	4194.	5.49	4190.	-0.01	-4.	-0.15	-0.09
-20.	500.	14000.	23.49	16348.	23.48	16338.	-0.01	-10.	-0.03	-0.06
-20.	550.	2000.	5.18	4341.	5.17	4337.	-0.01	-4.	-0.12	-0.10
-20.	550.	15000.	24.07	18208.	24.03	18203.	-0.04	-5.	-0.15	-0.03
-30.	300.	2000.	5.89	2515.	5.88	2514.	-0.01	-1.	-0.10	-0.03
-30.	300.	8500.	17.14	6981.	17.13	6981.	-0.01	0.	-0.05	0.00
-30.	350.	2000.	5.37	2675.	5.37	2673.	-0.00	-2.	-0.02	-0.07
-30.	350.	11000.	19.54	9127.	19.53	9126.	-0.01	-1.	-0.05	-0.01
-30.	400.	2000.	4.93	2800.	4.92	2799.	-0.01	-1.	-0.14	-0.05
-30.	400.	14500.	22.73	11902.	22.72	11897.	-0.01	-5.	-0.06	-0.04
-30.	450.	2000.	4.54	2901.	4.54	2899.	-0.00	-2.	-0.08	-0.08
-30.	450.	15000.	22.36	13139.	22.45	13132.	0.09	-7.	0.40	-0.06
-30.	500.	2500.	5.13	3615.	5.12	3613.	-0.01	-2.	-0.12	-0.07
-30.	500.	15000.	21.70	14030.	21.68	14023.	-0.02	-7.	-0.07	-0.05
-30.	550.	2500.	4.78	3708.	4.78	3705.	0.00	-3.	0.02	-0.08
-30.	550.	15000.	21.09	14837.	20.96	14838.	-0.13	1.	-0.62	0.01
-40.	300.	2500.	6.06	2288.	6.06	2287.	-0.00	-1.	-0.04	-0.03
-40.	300.	13500.	21.71	7688.	21.69	7688.	-0.02	-0.	-0.08	-0.00
-40.	350.	2500.	5.49	2414.	5.48	2413.	-0.01	-1.	-0.16	-0.06
-40.	350.	15000.	22.26	9108.	22.24	9106.	-0.02	-2.	-0.07	-0.02
-40.	400.	3000.	5.86	2932.	5.86	2930.	-0.00	-2.	-0.03	-0.06
-40.	400.	15000.	21.25	9899.	21.24	9895.	-0.01	-4.	-0.04	-0.04
-40.	450.	3000.	5.39	3031.	5.39	3029.	-0.00	-2.	-0.05	-0.05
-40.	450.	15000.	20.31	10603.	20.30	10598.	-0.01	-5.	-0.04	-0.05
-40.	500.	3500.	5.73	3559.	5.73	3557.	-0.00	-2.	-0.09	-0.05
-40.	500.	15000.	19.44	11229.	19.42	11225.	-0.02	-4.	-0.09	-0.03

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-40.	550.	4000.	6.02	4093.	6.02	4091.	-0.00	-2.	-0.02	-0.05
-40.	550.	15000.	18.67	11782.	18.60	11786.	-0.07	4.	-0.37	0.03
-45.	300.	2500.	5.70	1987.	5.69	1987.	-0.01	-0.	-0.16	-0.01
-45.	300.	15000.	22.62	7372.	22.61	7371.	-0.01	-1.	-0.05	-0.01
-45.	350.	3000.	6.01	2432.	6.00	2431.	-0.01	-1.	-0.16	-0.02
-45.	350.	15000.	21.48	8135.	21.47	8133.	-0.01	-2.	-0.06	-0.03
-45.	400.	3000.	5.47	2529.	5.46	2528.	-0.01	-1.	-0.12	-0.03
-45.	400.	15000.	20.41	8807.	20.41	8803.	-0.00	-4.	-0.01	-0.04
-45.	450.	3500.	5.76	2980.	5.75	2979.	-0.01	-1.	-0.14	-0.03
-45.	450.	15000.	19.43	9398.	19.42	9395.	-0.01	-4.	-0.04	-0.04
-45.	500.	4000.	6.00	3437.	6.00	3435.	-0.00	-2.	-0.01	-0.05
-45.	500.	15000.	18.53	9920.	18.51	9917.	-0.02	-3.	-0.12	-0.03
-45.	550.	4500.	6.22	3897.	6.22	3896.	-0.00	-1.	-0.06	-0.03
-45.	550.	15000.	17.73	10374.	17.66	10378.	-0.07	4.	-0.41	0.04
-60.	300.	4000.	7.40	1812.	7.40	1812.	-0.00	0.	-0.02	0.01
-60.	300.	15000.	20.98	4858.	20.96	4858.	-0.02	-0.	-0.08	-0.00
-60.	350.	4000.	6.68	1905.	6.67	1905.	-0.01	-0.	-0.13	-0.00
-60.	350.	15000.	19.70	5310.	19.69	5308.	-0.01	-2.	-0.05	-0.03
-60.	400.	5000.	7.40	2394.	7.39	2393.	-0.01	-1.	-0.12	-0.04
-60.	400.	15000.	18.53	5696.	18.53	5694.	-0.00	-2.	-0.02	-0.03
-60.	450.	5500.	7.40	2683.	7.40	2683.	-0.00	-0.	-0.06	-0.02
-60.	450.	15000.	17.47	6028.	17.47	6026.	-0.00	-2.	-0.03	-0.03
-60.	500.	6500.	7.96	3186.	7.96	3185.	0.00	-1.	0.01	-0.04
-60.	500.	15000.	16.52	6313.	16.49	6312.	-0.03	-1.	-0.15	-0.02
-60.	550.	7000.	7.94	3479.	7.94	3478.	-0.00	-1.	-0.05	-0.02
-60.	550.	15000.	15.70	6554.	15.61	6559.	-0.09	5.	-0.59	0.07

WEAPON COEFFICIENTS FOR IDNO 18

CFORM1 = 0.0 DKG1 = 0.0073290 DM1 = 0.0 VMUZ = 0. DS = 0.6617000
CFORM2 = 0.C168950 DKG2 = 0.1716599 DM2 = 0.3800000 FN = 0. SL = -.0002690

ITYPE = 1 IREF = 1 VE = 0.0
IBOTH = 2 DMAX = 5.00 DTI = 2.00

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	300.	300.	4.93	1743.	4.85	1658.	-0.08	-85.	-1.56	-4.88
0.	300.	1000.	9.66	2591.	9.60	2562.	-0.06	-29.	-0.58	-1.13
0.	350.	200.	4.01	1689.	3.91	1557.	-0.10	-132.	-2.37	-7.80
0.	350.	1100.	10.34	2924.	10.29	2891.	-0.05	-33.	-0.51	-1.12
0.	400.	200.	4.06	1855.	3.95	1650.	-0.11	-205.	-2.73	-11.04
0.	400.	1200.	10.98	3212.	10.94	3164.	-0.04	-48.	-0.34	-1.50
0.	450.	200.	4.12	2004.	3.97	1698.	-0.15	-306.	-3.56	-15.25
0.	450.	1300.	11.59	3465.	11.56	3382.	-0.03	-83.	-0.23	-2.40
0.	500.	200.	4.16	2138.	3.99	1697.	-0.17	-441.	-4.19	-20.64
0.	500.	1400.	12.18	3691.	12.14	3530.	-0.04	-161.	-0.34	-4.37
0.	550.	200.	4.21	2260.	3.99	1642.	-0.22	-618.	-5.34	-27.34
0.	550.	1500.	12.75	3896.	12.66	3597.	-0.09	-299.	-0.67	-7.66
-10.	300.	500.	4.25	1546.	4.27	1491.	0.02	-55.	0.39	-3.58
-10.	300.	1500.	10.00	2565.	9.97	2542.	-0.03	-23.	-0.32	-0.91
-10.	350.	500.	4.07	1674.	4.13	1591.	0.06	-83.	1.52	-4.96
-10.	350.	2000.	12.29	3073.	12.26	3061.	-0.03	-12.	-0.22	-0.39
-10.	400.	500.	3.92	1779.	4.05	1653.	0.13	-126.	3.31	-7.07
-10.	400.	2000.	12.23	3272.	12.23	3247.	-0.00	-25.	-0.00	-0.76
-10.	450.	600.	4.50	2075.	4.69	1883.	0.19	-192.	4.22	-9.28
-10.	450.	2000.	12.18	3440.	12.22	3379.	0.04	-61.	0.29	-1.78
-10.	500.	600.	4.38	2163.	4.69	1887.	0.31	-276.	7.19	-12.75
-10.	500.	2500.	14.37	3823.	14.46	3727.	0.09	-96.	0.61	-2.52
-10.	550.	700.	4.96	2437.	5.42	2035.	0.46	-402.	9.20	-16.51
-10.	550.	2500.	14.33	3957.	14.48	3738.	0.15	-219.	1.07	-5.52
-20.	300.	800.	4.46	1519.	4.52	1477.	0.06	-42.	1.44	-2.79
-20.	300.	2500.	12.57	2684.	12.54	2674.	-0.03	-10.	-0.27	-0.37
-20.	350.	900.	4.70	1746.	4.82	1681.	0.12	-65.	2.55	-3.73
-20.	350.	2500.	12.32	2899.	12.31	2887.	-0.01	-12.	-0.08	-0.41
-20.	400.	1000.	4.97	1961.	5.20	1863.	0.23	-98.	4.55	-4.98
-20.	400.	3000.	14.23	3269.	14.24	3267.	0.01	-2.	0.09	-0.07

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-20.	450.	1500.	7.31	2579.	7.53	2457.	0.22	-122.	2.97	-4.74
-20.	450.	3000.	14.06	3426.	14.13	3399.	0.07	-27.	0.51	-0.80
-20.	500.	1500.	7.12	2674.	7.50	2480.	0.38	-194.	5.34	-7.25
-20.	500.	3500.	15.97	3733.	16.12	3673.	0.15	-60.	0.92	-1.62
-20.	550.	1500.	6.94	2757.	7.56	2461.	0.62	-296.	8.88	-10.73
-20.	550.	3500.	15.83	3858.	16.13	3697.	0.30	-161.	1.87	-4.16
-30.	300.	1500.	6.50	1762.	6.56	1730.	0.06	-32.	0.90	-1.84
-30.	300.	3000.	12.91	2471.	12.89	2463.	-0.02	-8.	-0.16	-0.32
-30.	350.	1500.	6.09	1872.	6.22	1825.	0.13	-47.	2.08	-2.49
-30.	350.	3500.	14.53	2814.	14.51	2814.	-0.02	0.	-0.12	0.00
-30.	400.	2000.	7.95	2323.	8.10	2267.	0.15	-56.	1.86	-2.43
-30.	400.	4000.	16.19	3111.	16.19	3121.	-0.00	10.	-0.03	0.34
-30.	450.	2000.	7.65	2417.	7.93	2324.	0.28	-93.	3.70	-3.83
-30.	450.	4000.	15.91	3256.	15.98	3250.	0.07	-6.	0.43	-0.19
-30.	500.	2500.	9.54	2806.	9.92	2679.	0.38	-127.	3.95	-4.54
-30.	500.	4500.	17.61	3505.	17.78	3471.	0.17	-34.	0.98	-0.96
-30.	550.	2500.	9.30	2889.	9.95	2675.	0.65	-214.	7.00	-7.42
-30.	550.	4500.	17.39	3620.	17.76	3506.	0.37	-114.	2.13	-3.16
-40.	300.	2500.	9.42	1886.	9.46	1868.	0.04	-18.	0.42	-0.96
-40.	300.	4500.	17.27	2401.	17.23	2403.	-0.04	2.	-0.23	0.09
-40.	350.	2500.	8.90	2010.	8.99	1983.	0.09	-27.	1.01	-1.34
-40.	350.	5000.	18.65	2670.	18.60	2682.	-0.05	12.	-0.24	0.44
-40.	400.	3000.	10.47	2317.	10.57	2289.	0.10	-28.	0.98	-1.21
-40.	400.	5000.	18.22	2823.	18.20	2841.	-0.02	18.	-0.12	0.63
-40.	450.	3000.	10.09	2411.	10.32	2358.	0.23	-53.	2.30	-2.18
-40.	450.	5500.	19.73	3038.	19.75	3056.	0.02	18.	0.10	0.60
-40.	500.	3500.	11.74	2681.	12.10	2601.	0.36	-80.	3.05	-2.99
-40.	500.	6000.	21.26	3232.	21.39	3230.	0.13	-2.	0.61	-0.05
-40.	550.	4000.	13.39	2921.	13.97	2789.	0.58	-132.	4.30	-4.52
-40.	550.	6000.	20.96	3338.	21.31	3278.	0.35	-60.	1.68	-1.81
-45.	300.	2500.	8.83	1682.	8.89	1663.	0.06	-19.	0.68	-1.12
-45.	300.	5000.	18.48	2251.	18.44	2255.	-0.04	4.	-0.23	0.17
-45.	350.	3000.	10.23	1971.	10.29	1953.	0.06	-18.	0.60	-0.91
-45.	350.	5500.	19.77	2493.	19.73	2506.	-0.04	13.	-0.22	0.52
-45.	400.	3000.	9.76	2068.	9.89	2039.	0.13	-29.	1.36	-1.40
-45.	400.	6000.	21.15	2703.	21.10	2728.	-0.05	25.	-0.25	0.91
-45.	450.	3500.	11.28	2322.	11.49	2284.	0.21	-38.	1.82	-1.62
-45.	450.	6500.	22.57	2891.	22.55	2919.	-0.02	28.	-0.08	0.97
-45.	500.	4000.	12.84	2549.	13.19	2488.	0.35	-61.	2.72	-2.41
-45.	500.	7000.	24.02	3061.	24.11	3075.	0.09	14.	0.38	0.44

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-45.	550.	4500.	14.42	2754.	15.00	2646.	0.58	-108.	3.99	-3.92
-45.	550.	7000.	23.69	3163.	23.99	3129.	0.30	-34.	1.26	-1.08
-60.	300.	4000.	13.11	1401.	13.12	1395.	0.01	-6.	0.10	-0.40
-60.	300.	11000.	38.17	1886.	38.04	1892.	-0.13	6.	-0.33	0.30
-60.	350.	4000.	12.40	1495.	12.44	1489.	0.04	-6.	0.34	-0.40
-60.	350.	12000.	40.80	2079.	40.64	2095.	-0.16	16.	-0.39	0.78
-60.	400.	5000.	15.53	1727.	15.54	1730.	0.01	3.	0.09	0.18
-60.	400.	13000.	43.50	2251.	43.29	2282.	-0.21	31.	-0.48	1.39
-60.	450.	5500.	16.85	1867.	16.93	1868.	0.08	1.	0.45	0.07
-60.	450.	14000.	46.21	2409.	45.98	2454.	-0.23	45.	-0.50	1.87
-60.	500.	6500.	20.04	2046.	20.22	2041.	0.18	-5.	0.89	-0.23
-60.	500.	14500.	47.34	2533.	47.12	2585.	-0.22	52.	-0.47	2.07
-60.	550.	7000.	21.43	2159.	21.83	2128.	0.40	-31.	1.87	-1.42
-60.	550.	15000.	48.49	2649.	48.32	2701.	-0.17	52.	-0.35	1.97

WEAPON COEFFICIENTS FOR IDNO 20

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CFORM1 = 2.2572994     DKG1 = 0.0081750     DM1 = 0.3200000     VMUZ =     0.     DS = 4.0599995
CFORM2 = 0.0111360     DKG2 = 0.1688499     DM2 = 0.4100000     FN =       0.     SL = 0.0

ITYPE =  1             IREF = 1             VE =  0.0
IBOTH =  2             DMAX = 5.00          DTI = 2.00
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			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
10.	300.	500.	9.87	3687.	9.84	3670.	-0.03	-17.	-0.27	-0.46
10.	300.	3000.	21.52	5106.	21.59	5128.	0.07	22.	0.31	0.42
10.	350.	500.	10.67	4336.	10.65	4315.	-0.02	-21.	-0.20	-0.48
10.	350.	3000.	22.24	5741.	22.33	5783.	0.09	42.	0.43	0.72
10.	400.	500.	11.44	4950.	11.40	4909.	-0.04	-41.	-0.37	-0.82
10.	400.	3000.	22.90	6322.	23.01	6369.	0.11	47.	0.47	0.74
10.	450.	500.	12.16	5527.	12.05	5424.	-0.11	-103.	-0.87	-1.86
10.	450.	3000.	23.50	6860.	23.59	6875.	0.09	15.	0.38	0.22
10.	500.	500.	12.83	6071.	12.66	5891.	-0.17	-180.	-1.36	-2.97
10.	500.	3000.	24.05	7363.	24.11	7332.	0.06	-31.	0.26	-0.42
10.	550.	500.	13.45	6583.	13.25	6360.	-0.20	-223.	-1.52	-3.39
10.	550.	3000.	24.55	7838.	24.63	7788.	0.08	-50.	0.31	-0.64
0.	300.	1000.	9.11	3552.	9.10	3533.	-0.01	-19.	-0.09	-0.52
0.	300.	15000.	59.10	6453.	59.42	6456.	0.32	3.	0.54	0.05
0.	350.	1000.	9.27	4066.	9.27	4037.	0.00	-29.	0.03	-0.72
0.	350.	15000.	59.45	7176.	59.77	7203.	0.32	27.	0.55	0.37
0.	400.	1000.	9.44	4556.	9.44	4494.	0.00	-62.	0.01	-1.35
0.	400.	15000.	59.76	7830.	60.09	7867.	0.33	37.	0.55	0.47
0.	450.	1000.	9.60	5024.	9.60	4893.	-0.00	-131.	-0.01	-2.60
0.	450.	15000.	60.04	8435.	60.37	8452.	0.33	17.	0.55	0.20
0.	500.	1000.	9.75	5473.	9.75	5257.	-0.00	-216.	-0.01	-3.94
0.	500.	15000.	60.29	9002.	60.62	9011.	0.33	9.	0.56	0.10
0.	550.	1000.	9.89	5904.	9.90	5628.	0.01	-276.	0.12	-4.68
0.	550.	15000.	60.50	9532.	60.87	9588.	0.37	56.	0.62	0.59
-10.	300.	1500.	8.61	3367.	8.63	3348.	0.02	-19.	0.24	-0.57
-10.	300.	2500.	13.22	4138.	13.22	4140.	-0.00	2.	-0.02	0.06
-10.	350.	1500.	8.33	3758.	8.37	3726.	0.04	-32.	0.42	-0.85
-10.	350.	3000.	15.18	4898.	15.18	4914.	0.00	16.	0.00	0.32
-10.	400.	1500.	8.05	4115.	8.13	4057.	0.08	-58.	0.98	-1.41
-10.	400.	3500.	17.09	5600.	17.11	5618.	0.02	18.	0.13	0.31

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-10.	450.	1500.	7.76	4443.	7.93	4334.	0.17	-109.	2.16	-2.45
-10.	450.	3500.	16.96	6056.	17.02	6029.	0.06	-27.	0.33	-0.44
-10.	500.	1500.	7.48	4746.	7.74	4580.	0.26	-166.	3.52	-3.50
-10.	500.	4000.	18.83	6693.	18.94	6626.	0.11	-67.	0.58	-0.99
-10.	550.	2000.	9.84	5768.	10.10	5554.	0.26	-214.	2.65	-3.72
-10.	550.	4500.	20.65	7286.	20.80	7215.	0.15	-71.	0.74	-0.98
-20.	300.	2000.	8.36	3140.	8.39	3123.	0.03	-17.	0.31	-0.54
-20.	300.	3500.	14.55	4050.	14.56	4056.	0.01	6.	0.03	0.15
-20.	350.	2000.	7.78	3437.	7.85	3413.	0.07	-24.	0.91	-0.69
-20.	350.	4000.	16.03	4698.	16.02	4716.	-0.01	18.	-0.06	0.39
-20.	400.	2500.	9.37	4206.	9.48	4163.	0.11	-43.	1.16	-1.03
-20.	400.	4500.	17.50	5309.	17.52	5326.	0.02	17.	0.12	0.33
-20.	450.	2500.	8.84	4491.	9.08	4401.	0.24	-90.	2.77	-2.01
-20.	450.	5000.	18.98	5887.	19.06	5874.	0.08	-13.	0.42	-0.22
-20.	500.	2500.	8.32	4747.	8.74	4605.	0.42	-142.	5.09	-2.99
-20.	500.	5500.	20.44	6438.	20.60	6387.	0.16	-51.	0.78	-0.79
-20.	550.	2500.	7.82	4972.	8.31	4812.	0.49	-160.	6.32	-3.22
-20.	550.	6000.	21.88	6960.	22.09	6908.	0.21	-52.	0.97	-0.75
-30.	300.	2500.	8.31	2869.	8.35	2855.	0.04	-14.	0.53	-0.48
-30.	300.	5000.	17.80	3946.	17.80	3960.	0.00	14.	0.00	0.37
-30.	350.	2500.	7.55	3101.	7.64	3081.	0.09	-20.	1.20	-0.64
-30.	350.	5500.	18.87	4492.	18.86	4520.	-0.01	28.	-0.04	0.62
-30.	400.	3000.	8.67	3717.	8.85	3677.	0.18	-40.	2.09	-1.08
-30.	400.	6000.	19.97	5010.	19.99	5035.	0.02	25.	0.10	0.51
-30.	450.	3000.	7.97	3924.	8.28	3854.	0.31	-70.	3.88	-1.79
-30.	450.	7000.	22.88	5609.	22.99	5609.	0.11	-0.	0.49	-0.00
-30.	500.	3000.	7.30	4099.	7.79	4003.	0.49	-96.	6.74	-2.35
-30.	500.	7500.	23.99	6080.	24.20	6051.	0.21	-29.	0.86	-0.47
-30.	550.	3500.	8.46	4727.	9.10	4593.	0.64	-134.	7.55	-2.84
-30.	550.	8000.	25.11	6530.	25.36	6508.	0.25	-22.	0.98	-0.34
-40.	300.	3000.	8.46	2550.	8.51	2538.	0.05	-12.	0.61	-0.48
-40.	300.	6500.	21.05	3616.	21.06	3634.	0.01	18.	0.07	0.51
-40.	350.	3000.	7.55	2733.	7.66	2717.	0.11	-16.	1.49	-0.57
-40.	350.	7500.	23.56	4252.	23.56	4186.	-0.00	-66.	-0.02	-1.55
-40.	400.	3500.	8.35	3215.	8.55	3183.	0.20	-32.	2.35	-1.00
-40.	400.	8000.	24.35	4590.	24.38	4621.	0.03	31.	0.11	0.68
-40.	450.	3500.	7.54	3368.	7.91	3315.	0.37	-53.	4.91	-1.56
-40.	450.	9000.	26.88	5075.	27.02	5082.	0.14	7.	0.54	0.14
-40.	500.	4000.	8.37	3851.	8.96	3762.	0.59	-89.	7.09	-2.31
-40.	500.	9500.	27.71	5478.	27.94	5465.	0.23	-13.	0.84	-0.23

			NAVAIR 01-1C-1T-1 BALLISTICS TABLES		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-40.	550.	4000.	7.62	3983.	8.29	3890.	0.67	-93.	8.80	-2.34
-40.	550.	10500.	30.24	5924.	30.48	5932.	0.24	8.	0.81	0.13
-45.	300.	3000.	7.78	2245.	7.84	2235.	0.06	-10.	0.77	-0.43
-45.	300.	7500.	23.61	3414.	23.63	3434.	0.02	20.	0.06	0.57
-45.	350.	3500.	8.44	2668.	8.54	2652.	0.10	-16.	1.20	-0.62
-45.	350.	8500.	25.94	3893.	25.94	3927.	0.00	34.	0.00	0.86
-45.	400.	3500.	7.53	2814.	7.75	2788.	0.22	-26.	2.95	-0.91
-45.	400.	9500.	28.29	4346.	28.34	4379.	0.05	33.	0.16	0.75
-45.	450.	4000.	8.23	3236.	8.61	3184.	0.38	-52.	4.61	-1.61
-45.	450.	10500.	30.64	4780.	30.80	4791.	0.16	11.	0.53	0.22
-45.	500.	4000.	7.41	3358.	7.98	3291.	0.57	-67.	7.75	-2.00
-45.	500.	11500.	32.98	5199.	33.23	5198.	0.25	-1.	0.76	-0.01
-45.	550.	4500.	8.13	3779.	8.83	3689.	0.70	-90.	8.62	-2.37
-45.	550.	12000.	33.70	5552.	33.93	5573.	0.23	21.	0.67	0.38
-60.	300.	4000.	9.35	1737.	9.41	1731.	0.06	-6.	0.63	-0.33
-60.	300.	15000.	45.89	2730.	46.06	2744.	0.17	14.	0.37	0.51
-60.	350.	4000.	8.21	1852.	8.33	1841.	0.12	-11.	1.45	-0.57
-60.	350.	15000.	44.53	3022.	44.66	3047.	0.13	25.	0.28	0.83
-60.	400.	5000.	10.16	2272.	10.34	2254.	0.18	-18.	1.82	-0.77
-60.	400.	15000.	43.25	3292.	43.39	3316.	0.14	24.	0.32	0.72
-60.	450.	5000.	10.61	2534.	9.51	2345.	-1.10	-189.	-10.32	-7.46
-60.	450.	15000.	42.00	3546.	42.22	3557.	0.22	11.	0.53	0.31
-60.	500.	6500.	12.73	2921.	13.21	2874.	0.48	-47.	3.77	-1.63
-60.	500.	15000.	40.81	3784.	41.07	3793.	0.26	9.	0.63	0.24
-60.	550.	7000.	13.28	3169.	13.83	3116.	0.55	-53.	4.14	-1.67
-60.	550.	15000.	39.69	4000.	39.85	4036.	0.16	36.	0.40	0.89

WEAPON COEFFICIENTS FOR IDNO 21

CFORM1 = 2.2403994	DKG1 = 0.0	DM1 = 0.0	VMUZ =	0.	DS = 4.0000000
CFORM2 = 0.1178000	DKG2 = 0.0	DM2 = 0.0	FN =	0.	SL = 0.0
ITYPE = 1	IREF = 1	VE = 0.0			
IBOTH = 2	DMAX = 5.00	DTI = 1.62			

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
10.	400.	500.	12.16	4813.	12.20	4720.	0.04	-93.	0.36	-1.93
10.	400.	3000.	25.51	5637.	25.98	5553.	0.47	-84.	1.82	-1.50
10.	450.	500.	12.94	5371.	13.00	5268.	0.06	-103.	0.50	-1.92
10.	450.	3000.	26.16	6159.	26.67	6077.	0.51	-82.	1.96	-1.33
10.	500.	500.	13.63	5876.	13.73	5754.	0.10	-122.	0.75	-2.08
10.	500.	3000.	26.75	6630.	27.32	6545.	0.57	-85.	2.12	-1.28
10.	550.	500.	14.24	6318.	14.31	6090.	0.07	-228.	0.46	-3.61
10.	550.	3000.	27.26	7042.	27.83	6876.	0.57	-166.	2.08	-2.36
0.	400.	1500.	13.19	4951.	13.36	4874.	0.17	-77.	1.32	-1.56
0.	400.	15000.	73.15	6665.	75.22	6517.	2.07	-148.	2.84	-2.22
0.	450.	1500.	13.39	5445.	13.58	5354.	0.19	-91.	1.43	-1.68
0.	450.	15000.	73.39	7240.	75.49	7104.	2.10	-136.	2.86	-1.88
0.	500.	1000.	10.34	5476.	10.52	5309.	0.18	-167.	1.77	-3.06
0.	500.	15000.	73.60	7751.	75.75	7619.	2.15	-132.	2.92	-1.70
0.	550.	1000.	10.49	5871.	10.77	5560.	0.28	-311.	2.67	-5.30
0.	550.	15000.	73.79	8186.	76.00	8003.	2.21	-183.	2.99	-2.23
-10.	400.	2000.	11.34	4628.	11.58	4548.	0.24	-80.	2.14	-1.72
-10.	400.	3000.	16.72	5097.	17.06	5026.	0.34	-71.	2.02	-1.39
-10.	450.	2000.	11.03	5042.	11.31	4944.	0.28	-98.	2.53	-1.95
-10.	450.	3500.	18.99	5701.	19.43	5626.	0.44	-75.	2.34	-1.32
-10.	500.	2000.	10.74	5413.	11.14	5260.	0.40	-153.	3.74	-2.83
-10.	500.	4000.	21.24	6237.	21.84	6122.	0.60	-115.	2.82	-1.85
-10.	550.	2000.	10.48	5735.	11.20	5424.	0.72	-311.	6.89	-5.43
-10.	550.	4000.	21.08	6609.	21.88	6312.	0.80	-297.	3.79	-4.49
-20.	400.	3000.	12.56	4509.	12.89	4444.	0.33	-65.	2.62	-1.45
-20.	400.	4500.	20.00	4965.	20.51	4899.	0.51	-66.	2.53	-1.33
-20.	450.	3000.	11.88	4875.	12.27	4789.	0.39	-86.	3.32	-1.76
-20.	450.	5000.	21.78	5488.	22.40	5413.	0.62	-75.	2.82	-1.37
-20.	500.	3000.	11.26	5195.	11.87	5048.	0.61	-147.	5.40	-2.82
-20.	500.	5000.	21.25	5880.	22.01	5748.	0.76	-132.	3.56	-2.24

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-20.	550.	3000.	10.71	5464.	11.92	5155.	1.21	-309.	11.33	-5.66
-20.	550.	5500.	23.15	6304.	24.42	5953.	1.27	-351.	5.48	-5.56
-30.	400.	3500.	11.45	4025.	11.83	3967.	0.38	-58.	3.35	-1.44
-30.	400.	5000.	21.05	4564.	19.23	4424.	-1.82	-140.	-8.65	-3.06
-30.	450.	3500.	10.47	4310.	10.99	4229.	0.52	-81.	4.94	-1.88
-30.	450.	6500.	24.76	5087.	25.56	5010.	0.80	-77.	3.23	-1.50
-30.	500.	3500.	9.59	4546.	10.46	4409.	0.87	-137.	9.06	-3.02
-30.	500.	6500.	23.93	5443.	24.97	5298.	1.04	-145.	4.34	-2.66
-30.	550.	4000.	11.24	5064.	12.97	4760.	1.73	-304.	15.35	-6.00
-30.	550.	7000.	25.51	5811.	27.36	5426.	1.85	-385.	7.25	-6.63
-40.	400.	4000.	10.82	3484.	11.26	3435.	0.44	-49.	4.11	-1.40
-40.	400.	7500.	27.01	4131.	27.86	4072.	0.85	-59.	3.16	-1.44
-40.	450.	4500.	11.89	3925.	12.52	3854.	0.63	-71.	5.28	-1.80
-40.	450.	8000.	28.05	4522.	29.05	4447.	1.00	-75.	3.58	-1.66
-40.	500.	4500.	10.80	4137.	11.90	4003.	1.10	-134.	10.19	-3.24
-40.	500.	8500.	29.21	4876.	30.63	4725.	1.42	-151.	4.85	-3.10
-40.	550.	4500.	9.88	4304.	12.09	4053.	2.21	-251.	22.33	-5.84
-40.	550.	9500.	32.72	5224.	35.43	4800.	2.71	-424.	8.30	-8.11
-45.	400.	4500.	11.79	3287.	12.27	3242.	0.48	-45.	4.04	-1.37
-45.	400.	8500.	30.06	3844.	31.05	3787.	0.99	-57.	3.29	-1.49
-45.	450.	4500.	10.49	3495.	11.18	3429.	0.69	-66.	6.54	-1.87
-45.	450.	9500.	33.15	4233.	34.37	4158.	1.22	-75.	3.67	-1.77
-45.	500.	4500.	9.37	3659.	10.60	3542.	1.23	-117.	13.09	-3.21
-45.	500.	10000.	34.16	4557.	35.82	4409.	1.66	-148.	4.87	-3.26
-45.	550.	5000.	10.53	4031.	13.04	3777.	2.51	-254.	23.81	-6.30
-45.	550.	10500.	35.33	4839.	38.42	4422.	3.09	-417.	8.74	-8.62

WEAPON COEFFICIENTS FOR IDNO 22

CFORM1 =	0.0	DKG1 =	0.0097670	DM1 =	0.0	VMUZ =	0.	DS = 0.6790000
CFORM2 =	0.0230625	DKG2 =	0.2328700	DM2 =	0.3800000	FN =	0.	SL = -.0003030
ITYPE =	1	IREF =	1	VE =	0.0			
IBOTH =	2	DMAX =	5.00	DTI =	1.62			

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	NAVAIR 01-1C-1T-1 BALLISTICS TABLES DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
0.	300.	200.	4.07	1421.	4.00	1344.	-0.07	-77.	-1.69	-5.39
0.	300.	800.	8.83	2189.	8.79	2174.	-0.04	-15.	-0.44	-0.70
0.	350.	200.	4.13	1589.	4.06	1471.	-0.07	-118.	-1.79	-7.44
0.	350.	900.	9.57	2466.	9.55	2452.	-0.02	-14.	-0.19	-0.58
0.	400.	200.	4.19	1733.	4.10	1547.	-0.09	-186.	-2.18	-10.72
0.	400.	1000.	10.27	2703.	10.27	2673.	-0.00	-30.	-0.05	-1.11
0.	450.	200.	4.24	1858.	4.13	1576.	-0.11	-282.	-2.66	-15.20
0.	450.	1100.	10.94	2908.	10.94	2834.	-0.00	-74.	-0.02	-2.54
0.	500.	200.	4.29	1969.	4.14	1550.	-0.15	-419.	-3.61	-21.29
0.	500.	1200.	11.57	3089.	11.55	2921.	-0.02	-168.	-0.16	-5.43
0.	550.	200.	4.33	2068.	4.16	1484.	-0.17	-584.	-3.90	-28.23
0.	550.	1200.	11.63	3198.	11.56	2866.	-0.07	-332.	-0.59	-10.38
-10.	300.	500.	4.50	1483.	4.52	1436.	0.02	-47.	0.44	-3.19
-10.	300.	1500.	10.68	2312.	10.66	2311.	-0.02	-1.	-0.21	-0.06
-10.	350.	500.	4.34	1604.	4.40	1529.	0.06	-75.	1.48	-4.65
-10.	350.	1500.	10.62	2502.	10.61	2497.	-0.01	-5.	-0.11	-0.19
-10.	400.	500.	4.20	1702.	4.34	1584.	0.14	-118.	3.41	-6.92
-10.	400.	1500.	10.55	2656.	10.58	2632.	0.03	-24.	0.29	-0.89
-10.	450.	600.	4.85	1961.	5.05	1790.	0.20	-171.	4.02	-8.71
-10.	450.	2000.	13.11	3008.	13.18	2973.	0.07	-35.	0.54	-1.17
-10.	500.	600.	4.75	2040.	5.07	1778.	0.32	-262.	6.79	-12.82
-10.	500.	2000.	13.06	3125.	13.20	3004.	0.14	-121.	1.06	-3.88
-10.	550.	700.	5.41	2269.	5.86	1889.	0.45	-380.	8.40	-16.74
-10.	550.	2000.	13.02	3227.	13.24	2962.	0.22	-265.	1.70	-8.20
-20.	300.	900.	5.40	1568.	5.45	1535.	0.05	-33.	0.95	-2.12
-20.	300.	2000.	11.34	2227.	11.31	2229.	-0.03	2.	-0.24	0.09
-20.	350.	900.	5.12	1674.	5.22	1623.	0.10	-51.	2.03	-3.04
-20.	350.	2000.	11.11	2398.	11.10	2397.	-0.01	-1.	-0.05	-0.03
-20.	400.	1000.	5.47	1867.	5.65	1788.	0.19	-79.	3.38	-4.24
-20.	400.	2500.	13.37	2716.	13.40	2720.	0.03	4.	0.21	0.16

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-20.	450.	1500.	8.11	2376.	8.31	2283.	0.20	-93.	2.45	-3.91
-20.	450.	2500.	13.21	2840.	13.32	2809.	0.11	-31.	0.83	-1.08
-20.	500.	1500.	7.95	2461.	8.31	2290.	0.36	-171.	4.57	-6.95
-20.	500.	2500.	13.07	2945.	13.31	2840.	0.24	-105.	1.83	-3.55
-20.	550.	1500.	7.80	2534.	8.42	2250.	0.62	-284.	7.94	-11.22
-20.	550.	3000.	15.32	3186.	15.72	2984.	0.40	-202.	2.59	-6.35
-30.	300.	1500.	7.17	1666.	7.20	1646.	0.03	-20.	0.47	-1.18
-30.	300.	2500.	12.07	2074.	12.04	2078.	-0.03	4.	-0.25	0.17
-30.	350.	1500.	6.78	1774.	6.87	1743.	0.09	-31.	1.33	-1.77
-30.	350.	3000.	14.05	2362.	14.02	2375.	-0.03	13.	-0.19	0.55
-30.	400.	2000.	8.96	2147.	9.07	2115.	0.11	-32.	1.27	-1.51
-30.	400.	3000.	13.74	2493.	13.77	2499.	0.03	6.	0.24	0.23
-30.	450.	2000.	8.69	2235.	8.94	2165.	0.25	-70.	2.89	-3.14
-30.	450.	3500.	15.79	2719.	15.89	2713.	0.10	-6.	0.63	-0.23
-30.	500.	2500.	10.89	2534.	11.27	2425.	0.38	-109.	3.53	-4.32
-30.	500.	3500.	15.56	2818.	15.84	2751.	0.28	-67.	1.83	-2.37
-30.	550.	2500.	10.68	2608.	11.38	2394.	0.70	-214.	6.57	-8.21
-30.	550.	4000.	17.62	3003.	18.12	2851.	0.50	-152.	2.85	-5.06
-40.	300.	2500.	10.63	1734.	10.62	1732.	-0.01	-2.	-0.10	-0.14
-40.	300.	3500.	15.20	1951.	15.15	1961.	-0.05	10.	-0.35	0.52
-40.	350.	2500.	10.14	1852.	10.16	1845.	0.02	-7.	0.23	-0.37
-40.	350.	4000.	16.95	2174.	16.90	2193.	-0.05	19.	-0.31	0.89
-40.	400.	3000.	12.04	2095.	12.09	2090.	0.05	-5.	0.46	-0.24
-40.	400.	4000.	16.55	2295.	16.55	2312.	-0.00	17.	-0.03	0.74
-40.	450.	3000.	11.69	2182.	11.89	2150.	0.20	-32.	1.69	-1.47
-40.	450.	4500.	18.42	2469.	18.50	2476.	0.08	7.	0.45	0.29
-40.	500.	3500.	13.66	2384.	14.04	2315.	0.38	-69.	2.81	-2.91
-40.	500.	4500.	18.12	2559.	18.40	2519.	0.28	-40.	1.57	-1.57
-40.	550.	4000.	15.64	2556.	16.31	2416.	0.67	-140.	4.27	-5.49
-40.	550.	5000.	20.05	2704.	20.60	2594.	0.55	-110.	2.72	-4.06
-45.	300.	2500.	10.01	1558.	10.01	1554.	0.00	-4.	0.04	-0.27
-45.	300.	4000.	16.78	1840.	16.71	1851.	-0.07	11.	-0.41	0.60
-45.	350.	3000.	11.75	1795.	11.75	1795.	0.00	0.	0.01	0.03
-45.	350.	4500.	18.44	2036.	18.37	2057.	-0.07	21.	-0.37	1.04
-45.	400.	3000.	11.30	1887.	11.38	1878.	0.08	-9.	0.69	-0.48
-45.	400.	5000.	20.18	2205.	20.14	2231.	-0.04	26.	-0.21	1.17
-45.	450.	3500.	13.17	2082.	13.35	2062.	0.18	-20.	1.33	-0.96
-45.	450.	5000.	19.80	2303.	19.86	2315.	0.06	12.	0.29	0.54
-45.	500.	4000.	15.07	2250.	15.44	2197.	0.37	-53.	2.46	-2.38
-45.	500.	5500.	21.63	2440.	21.86	2420.	0.23	-20.	1.07	-0.82

DEG	TAS	ALT	NAVAIR 01-1C-1T-1 BALLISTICS TABLES TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-45.	550.	4500.	16.98	2396.	17.66	2279.	0.68	-117.	3.99	-4.89
-45.	550.	6000.	23.48	2562.	23.98	2483.	0.50	-79.	2.12	-3.08
-60.	300.	4000.	15.19	1251.	15.14	1257.	-0.05	6.	-0.35	0.46
-60.	300.	8500.	34.33	1483.	34.15	1496.	-0.18	13.	-0.53	0.90
-60.	350.	4000.	14.52	1339.	14.48	1346.	-0.04	7.	-0.27	0.54
-60.	350.	9500.	37.72	1632.	37.50	1654.	-0.22	22.	-0.58	1.32
-60.	400.	5000.	18.31	1508.	18.28	1522.	-0.03	14.	-0.19	0.93
-60.	400.	10000.	39.16	1745.	38.92	1776.	-0.24	31.	-0.61	1.78
-60.	450.	5500.	19.99	1613.	20.04	1622.	0.05	9.	0.24	0.53
-60.	450.	10500.	40.66	1845.	40.45	1880.	-0.21	35.	-0.53	1.90
-60.	500.	6500.	23.82	1737.	24.04	1730.	0.22	-7.	0.92	-0.42
-60.	500.	11500.	44.17	1956.	44.01	1987.	-0.16	31.	-0.36	1.56
-60.	550.	7000.	25.55	1819.	26.06	1775.	0.51	-44.	2.01	-2.42
-60.	550.	12000.	45.72	2041.	45.72	2054.	-0.00	13.	-0.01	0.65

APPENDIX C

This appendix is a listing of the output from the cockpit of various A-6E aircraft recorded at the instant the weapon was released.

The following is a brief description of the parameter headings as they appear on the listing.

TAS = true airspeed in knots

TH = true heading in degrees relative to true north

WDIR = wind direction in degrees true

WKTS = wind speed in knots

GT = ground track in degrees true

GS = ground speed in knots

RA = release angle in degrees

VZ = vertical velocity in knots x 10

VSEP = vertical separation in feet

DA = depression angle (search radar) in degrees

SR = slant range to target in feet

TOF = time of fall in seconds

HIT = his distance from target in feet

AZ = hit azimuth in clock code

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
421.	86.	356.	10.	87.	421.	0.	6.	1389.	-12.	6560.	9.8	90.	430.
378.	88.	23.	7.	89.	375.	1.	8.	1413.	-13.	6010.	9.9	90.	1130.
377.	86.	350.	14.	88.	378.	0.	1.	1452.	-13.	6030.	9.8	60.	230.
376.	86.	10.	10.	87.	374.	1.	8.	1615.	-14.	6400.	10.6	40.	200.
363.	75.	356.	11.	77.	361.	0.	4.	1388.	-14.	5750.	9.7	140.	330.
382.	89.	57.	6.	89.	377.	-1.	6.	1276.	-13.	5560.	9.0	60.	600.
374.	87.	45.	13.	88.	364.	2.	19.	797.	-10.	4740.	7.8	100.	1230.
377.	88.	11.	9.	89.	374.	-1.	14.	1356.	-14.	5590.	9.0	0.	0.
374.	88.	11.	2.	88.	374.	1.	16.	1466.	-14.	6240.	10.4	50.	230.
451.	49.	52.	4.	49.	447.	0.	4.	922.	-10.	5740.	8.0	160.	900.
398.	91.	233.	20.	90.	414.	1.	17.	970.	-10.	5750.	8.5	90.	1230.
415.	91.	38.	12.	92.	408.	0.	4.	407.	-6.	3630.	5.3	150.	600.
362.	89.	28.	8.	90.	358.	0.	1.	501.	-7.	3530.	5.7	0.	0.
340.	88.	43.	14.	90.	330.	2.	15.	610.	-9.	3790.	6.8	20.	1030.
359.	89.	35.	9.	90.	354.	1.	7.	500.	-6.	3370.	5.6	40.	830.
359.	89.	42.	12.	90.	351.	0.	2.	516.	-8.	3390.	5.7	100.	1200.
421.	77.	258.	20.	78.	441.	0.	3.	1051.	-10.	5930.	8.2	50.	1200.
340.	79.	248.	20.	78.	360.	0.	2.	793.	-11.	4410.	7.2	110.	1200.
331.	82.	257.	20.	82.	351.	0.	3.	961.	-13.	4610.	7.8	110.	1200.
335.	78.	253.	19.	78.	353.	0.	3.	1118.	-13.	5130.	8.6	300.	530.
384.	79.	253.	23.	79.	406.	0.	1.	975.	-10.	5460.	8.0	70.	600.
355.	77.	256.	19.	77.	374.	0.	1.	1057.	-12.	5210.	8.4	60.	100.
342.	77.	252.	21.	77.	362.	0.	3.	957.	-12.	4690.	7.8	60.	1230.
325.	88.	262.	33.	87.	351.	1.	9.	924.	-11.	4820.	8.0	120.	600.
423.	92.	258.	16.	91.	493.	0.	3.	1042.	-10.	6040.	8.5	280.	530.
405.	91.	253.	15.	91.	420.	0.	0.	1100.	-8.	5850.	8.6	1170.	630.
401.	91.	186.	6.	91.	402.	0.	0.	1056.	-11.	5570.	8.4	80.	230.
372.	90.	85.	21.	90.	351.	1.	9.	510.	-8.	3620.	6.0	300.	1200.
370.	89.	88.	24.	89.	345.	1.	11.	944.	-12.	4660.	8.2	150.	1200.
328.	89.	68.	9.	89.	320.	0.	1.	911.	-13.	4160.	7.7	120.	600.
321.	88.	95.	12.	88.	308.	1.	7.	824.	-12.	3900.	7.5	80.	200.
326.	89.	92.	11.	89.	315.	0.	3.	929.	-13.	4170.	7.9	60.	400.
331.	89.	82.	13.	89.	317.	0.	1.	891.	-13.	4030.	7.6	70.	1100.
354.	89.	3.	21.	92.	353.	0.	4.	817.	-11.	4250.	7.2	200.	1100.
351.	87.	355.	8.	89.	352.	-1.	7.	684.	-10.	3890.	6.4	240.	1200.
439.	50.	260.	33.	53.	466.	-1.	9.	779.	-9.	5310.	6.9	50.	1200.
336.	89.	264.	28.	88.	364.	0.	0.	747.	-10.	4260.	7.0	100.	1130.
329.	91.	259.	31.	90.	359.	0.	1.	744.	-10.	4200.	6.9	80.	1200.
427.	90.	248.	28.	88.	453.	0.	6.	908.	-9.	5850.	7.9	240.	130.
387.	90.	266.	21.	89.	409.	0.	4.	917.	-10.	5330.	7.9	120.	1200.
393.	90.	264.	21.	89.	414.	1.	8.	909.	-10.	5480.	8.0	110.	1200.
353.	89.	260.	28.	88.	381.	0.	1.	1124.	-12.	5410.	8.5	300.	600.
348.	89.	38.	8.	90.	343.	0.	0.	990.	-13.	4600.	8.0	0.	0.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
347.	89.	23.	8.	90.	343.	1.	6.	990.	-12.	4670.	8.2	0.	0.
349.	88.	15.	7.	89.	347.	1.	7.	959.	-12.	4710.	8.2	20.	430.
342.	88.	37.	10.	89.	335.	2.	19.	962.	-12.	4760.	8.6	40.	1100.
357.	88.	34.	7.	90.	353.	0.	1.	879.	-12.	4550.	7.6	30.	100.
354.	88.	38.	10.	89.	348.	0.	0.	912.	-12.	4440.	7.7	60.	1230.
359.	88.	37.	9.	90.	353.	0.	4.	988.	-12.	4800.	8.2	0.	0.
349.	88.	39.	8.	89.	343.	1.	6.	880.	-12.	4460.	7.8	0.	0.
340.	88.	57.	10.	90.	331.	0.	0.	927.	-13.	4300.	7.8	60.	500.
348.	88.	20.	9.	90.	345.	1.	8.	934.	-12.	4690.	8.1	0.	0.
354.	87.	29.	8.	89.	349.	0.	4.	851.	-12.	4270.	7.3	0.	0.
412.	87.	264.	17.	87.	429.	0.	0.	1023.	-10.	3800.	8.2	30.	600.
321.	92.	266.	18.	92.	339.	0.	4.	1096.	-13.	4870.	8.6	20.	900.
322.	90.	269.	15.	90.	337.	0.	0.	990.	-13.	4580.	8.0	50.	700.
325.	60.	265.	16.	90.	325.	0.	0.	996.	-12.	4610.	8.0	50.	600.
324.	90.	264.	17.	90.	340.	1.	7.	1013.	-12.	4730.	8.3	60.	600.
332.	92.	262.	15.	92.	346.	0.	3.	967.	-12.	4620.	8.0	0.	0.
356.	93.	249.	16.	92.	341.	0.	1.	926.	-12.	4470.	7.8	100.	100.
314.	90.	253.	17.	89.	330.	1.	9.	989.	-12.	4630.	8.3	60.	600.
325.	92.	251.	16.	91.	340.	0.	4.	1002.	-13.	4630.	8.2	50.	400.
339.	91.	252.	14.	90.	352.	0.	1.	961.	-12.	4700.	8.0	20.	100.
323.	90.	249.	14.	89.	335.	0.	3.	967.	-13.	4530.	8.0	100.	100.
324.	92.	255.	16.	62.	339.	1.	7.	1045.	-13.	4810.	8.5	0.	0.
418.	89.	63.	5.	89.	413.	1.	10.	1264.	-12.	6330.	9.5	20.	300.
341.	88.	3.	6.	89.	340.	-1.	6.	1109.	-14.	4810.	8.3	50.	700.
403.	88.	28.	9.	90.	398.	-1.	11.	1128.	-12.	5450.	8.3	20.	1100.
388.	89.	28.	8.	90.	384.	0.	0.	1152.	-12.	5510.	8.7	20.	1100.
371.	88.	17.	9.	90.	368.	0.	5.	1065.	-12.	5000.	8.2	50.	1200.
368.	88.	78.	24.	88.	344.	-1.	12.	1057.	-13.	4640.	7.9	120.	1200.
429.	88.	275.	19.	89.	448.	1.	7.	1004.	-10.	6120.	8.4	100.	1100.
320.	90.	268.	25.	90.	346.	0.	3.	983.	-12.	4740.	8.1	0.	0.
328.	87.	269.	24.	87.	352.	0.	0.	1056.	-12.	4900.	8.3	30.	700.
321.	88.	278.	20.	89.	340.	0.	3.	964.	-12.	4650.	8.0	0.	0.
315.	88.	269.	24.	88.	339.	0.	4.	930.	-12.	4440.	7.6	0.	0.
318.	91.	269.	27.	90.	344.	0.	3.	1021.	-12.	4820.	8.2	0.	0.
308.	94.	275.	23.	93.	330.	0.	3.	1003.	-13.	4570.	8.2	50.	1200.
311.	94.	274.	26.	94.	337.	0.	2.	937.	-12.	4520.	7.8	0.	0.
311.	91.	276.	23.	91.	334.	0.	0.	944.	-12.	4470.	7.8	0.	0.
330.	96.	274.	22.	96.	352.	0.	1.	926.	-12.	4620.	7.7	30.	300.
324.	93.	269.	23.	93.	347.	0.	3.	938.	-12.	4560.	7.7	0.	0.
312.	98.	270.	21.	98.	333.	0.	4.	1142.	-14.	4790.	8.5	40.	600.
304.	92.	267.	25.	92.	328.	0.	0.	1014.	-13.	4510.	8.1	40.	300.
261.	99.	267.	26.	98.	287.	0.	0.	956.	-14.	3930.	7.8	0.	0.
312.	93.	268.	24.	93.	336.	1.	6.	1068.	-13.	4820.	8.5	30.	300.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
326.	93.	271.	24.	93.	350.	0.	1.	1003.	-12.	4740.	8.0	30.	200.
325.	94.	265.	26.	94.	350.	0.	0.	992.	-12.	4740.	8.0	0.	0.
424.	88.	213.	7.	88.	428.	0.	6.	921.	-10.	5500.	8.0	40.	200.
345.	89.	213.	6.	88.	348.	0.	4.	642.	-9.	3910.	6.6	0.	0.
360.	88.	220.	5.	87.	363.	-1.	6.	542.	-8.	3580.	5.7	0.	0.
345.	89.	201.	6.	88.	348.	0.	1.	499.	-7.	3330.	5.6	60.	200.
337.	90.	203.	5.	89.	339.	1.	4.	590.	-8.	3730.	6.5	20.	200.
446.	90.	254.	4.	89.	450.	0.	2.	931.	-10.	5810.	7.9	180.	1230.
373.	89.	7.	4.	89.	372.	-1.	12.	1014.	-12.	4850.	7.8	160.	630.
342.	87.	7.	4.	88.	341.	-1.	11.	719.	-11.	3800.	6.5	40.	1230.
344.	88.	13.	8.	89.	342.	0.	4.	750.	-11.	4080.	7.1	100.	1100.
342.	88.	54.	12.	89.	332.	-1.	7.	804.	-12.	3900.	7.0	180.	1230.
333.	88.	7.	8.	89.	332.	0.	2.	994.	-12.	4330.	7.8	310.	600.
358.	89.	80.	25.	90.	334.	1.	9.	557.	-8.	3610.	6.3	40.	100.
367.	90.	65.	11.	91.	357.	0.	1.	584.	-8.	3730.	6.1	50.	300.
379.	83.	39.	11.	84.	371.	0.	5.	411.	-6.	3220.	5.0	200.	630.
410.	46.	90.	5.	46.	406.	0.	5.	992.	-11.	5290.	8.0	250.	1200.
341.	90.	292.	10.	90.	349.	1.	13.	1183.	-13.	5400.	9.2	170.	530.
366.	91.	244.	16.	90.	380.	0.	3.	888.	-10.	4870.	7.7	80.	200.
361.	90.	252.	21.	89.	380.	0.	3.	928.	-11.	4910.	7.7	30.	300.
357.	91.	251.	18.	90.	373.	1.	9.	864.	-10.	4810.	7.7	0.	0.
346.	91.	257.	21.	90.	366.	0.	1.	930.	-11.	4760.	7.8	0.	0.
353.	92.	256.	22.	91.	374.	0.	1.	1149.	-12.	5390.	8.7	440.	600.
436.	87.	242.	32.	86.	466.	-1.	7.	980.	-9.	6000.	7.8	200.	1230.
351.	90.	252.	36.	88.	385.	-1.	7.	1030.	-12.	5170.	8.0	120.	600.
359.	89.	252.	36.	87.	393.	-1.	11.	1097.	-12.	5320.	8.1	60.	700.
348.	95.	244.	41.	90.	384.	0.	0.	838.	-10.	4790.	7.2	60.	600.
357.	92.	243.	40.	89.	393.	-1.	15.	927.	-11.	4850.	7.3	0.	0.
337.	92.	245.	36.	89.	369.	-1.	7.	748.	-10.	4220.	6.7	100.	600.
439.	86.	32.	14.	88.	431.	0.	6.	1067.	-10.	5970.	8.6	50.	500.
352.	86.	34.	9.	87.	346.	-1.	9.	702.	-10.	3770.	6.5	40.	1200.
385.	87.	35.	11.	88.	378.	1.	8.	772.	-9.	4640.	7.4	50.	500.
381.	88.	23.	9.	89.	377.	0.	5.	723.	-10.	4200.	6.7	40.	430.
344.	87.	43.	8.	88.	338.	0.	0.	486.	-7.	3230.	5.6	50.	500.
361.	88.	59.	9.	89.	353.	0.	1.	641.	-9.	3850.	6.4	30.	500.
344.	88.	23.	12.	89.	338.	1.	11.	961.	-12.	4620.	8.3	10.	200.
365.	88.	47.	14.	89.	354.	1.	7.	903.	-11.	4680.	7.9	0.	0.
362.	88.	40.	13.	90.	353.	1.	8.	956.	-12.	4790.	8.2	30.	230.
379.	88.	36.	14.	89.	371.	1.	7.	933.	-11.	4920.	8.1	0.	0.
348.	88.	44.	13.	89.	338.	0.	3.	869.	-12.	4330.	7.6	60.	1200.
359.	88.	19.	14.	90.	355.	0.	3.	883.	-12.	4590.	7.7	70.	300.
354.	88.	19.	15.	90.	354.	0.	3.	884.	-12.	4540.	7.7	60.	1000.
344.	87.	23.	16.	90.	337.	-1.	6.	892.	-12.	4330.	7.4	0.	0.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
343.	87.	23.	16.	90.	336.	0.	1.	984.	-13.	4520.	8.0	0.	0.
344.	87.	34.	16.	90.	334.	1.	6.	888.	-12.	4380.	7.8	60.	1100.
352.	87.	26.	14.	89.	346.	0.	1.	937.	-12.	4490.	7.8	50.	500.
367.	87.	39.	15.	89.	358.	0.	3.	943.	-12.	4750.	8.0	70.	1100.
429.	90.	266.	30.	89.	459.	0.	4.	1197.	-11.	6720.	9.1	100.	1230.
362.	89.	273.	26.	89.	387.	0.	3.	1181.	-12.	6690.	8.9	160.	1200.
355.	90.	254.	4.	90.	359.	0.	4.	959.	-12.	4780.	8.0	0.	0.
359.	91.	234.	7.	90.	365.	1.	6.	980.	-12.	4960.	8.2	20.	100.
345.	91.	230.	6.	90.	350.	1.	8.	1088.	-13.	5020.	8.7	30.	530.
354.	91.	243.	8.	91.	361.	1.	12.	1056.	-12.	5140.	8.7	40.	400.
350.	91.	230.	2.	91.	351.	1.	7.	901.	-12.	5120.	8.2	110.	500.
353.	89.	39.	4.	89.	354.	1.	6.	695.	-10.	4100.	6.9	60.	200.
351.	92.	255.	8.	91.	358.	0.	0.	464.	-7.	3340.	5.5	150.	1000.
351.	91.	231.	14.	89.	361.	0.	3.	498.	-7.	3580.	5.7	100.	300.
352.	90.	240.	13.	89.	363.	0.	2.	392.	-6.	3140.	5.1	100.	100.
361.	90.	228.	15.	88.	372.	0.	4.	367.	-5.	3170.	5.0	200.	130.
343.	88.	237.	14.	87.	355.	0.	0.	453.	-7.	3350.	5.4	80.	400.
353.	88.	222.	13.	86.	362.	0.	2.	500.	-7.	3610.	5.7	100.	400.
342.	52.	53.	10.	52.	331.	0.	0.	978.	-17.	4400.	8.0	60.	1100.
342.	77.	32.	12.	78.	333.	1.	6.	913.	-12.	4420.	7.9	120.	1100.
329.	76.	26.	9.	77.	323.	1.	3.	936.	-12.	4400.	8.0	0.	0.
329.	78.	25.	6.	79.	325.	0.	0.	943.	-13.	4310.	7.8	20.	1100.
329.	77.	28.	9.	78.	323.	1.	7.	961.	-13.	4420.	8.1	90.	530.
331.	76.	24.	10.	77.	325.	0.	1.	889.	-12.	4200.	7.6	20.	100.
433.	48.	32.	6.	48.	427.	0.	0.	667.	-9.	4620.	6.6	240.	1130.
377.	87.	304.	20.	89.	353.	0.	3.	1001.	-11.	4870.	8.2	30.	430.
363.	86.	325.	21.	89.	374.	0.	1.	1064.	-10.	5260.	8.4	80.	530.
377.	87.	315.	18.	89.	389.	1.	7.	1060.	-8.	5510.	8.6	100.	700.
334.	84.	42.	12.	86.	326.	1.	11.	1072.	-13.	4730.	8.7	260.	1000.
360.	89.	43.	12.	90.	352.	1.	7.	1741.	-16.	6250.	11.0	30.	100.
357.	88.	32.	9.	90.	352.	1.	6.	1698.	-16.	6170.	10.8	60.	200.
356.	88.	47.	13.	90.	346.	1.	6.	1761.	-17.	6160.	11.1	210.	100.
367.	88.	40.	15.	90.	357.	1.	5.	1713.	-16.	6280.	10.9	130.	200.
365.	89.	40.	14.	90.	356.	0.	0.	1712.	-16.	6220.	10.7	80.	400.
323.	93.	246.	19.	92.	340.	1.	6.	908.	-11.	4520.	7.9	100.	300.
334.	100.	246.	15.	99.	346.	1.	6.	904.	-11.	4590.	7.9	120.	230.
513.	90.	281.	6.	90.	516.	0.	16.	521.	-6.	5080.	6.1	120.	500.
338.	90.	279.	12.	90.	350.	0.	4.	479.	-7.	3420.	5.7	30.	600.
342.	89.	301.	9.	90.	349.	0.	3.	450.	-6.	3310.	5.5	0.	0.
329.	90.	289.	7.	90.	336.	-1.	6.	435.	-6.	2960.	5.2	40.	700.
328.	89.	289.	8.	90.	335.	0.	4.	391.	-6.	2820.	4.9	60.	900.
329.	90.	289.	4.	90.	332.	0.	1.	379.	-5.	2820.	5.0	0.	0.
330.	89.	295.	9.	89.	338.	0.	0.	289.	-4.	2610.	4.3	30.	600.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
350.	90.	372.	5.	90.	355.	0.	0.	337.	-5.	2880.	4.6	30.	430.
343.	90.	247.	6.	90.	349.	0.	0.	315.	-5.	2690.	4.5	30.	600.
329.	89.	296.	5.	90.	333.	0.	4.	329.	-4.	2700.	4.7	0.	0.
338.	89.	283.	4.	89.	342.	1.	6.	462.	-7.	3260.	5.6	0.	0.
426.	91.	261.	26.	91.	451.	0.	3.	864.	-9.	5650.	7.7	280.	1200.
321.	91.	259.	27.	91.	347.	0.	1.	907.	-12.	4440.	7.5	80.	100.
361.	91.	264.	29.	90.	390.	-1.	7.	1050.	-12.	5210.	8.1	90.	600.
394.	90.	261.	29.	89.	423.	-1.	6.	1276.	-12.	6220.	9.0	210.	1200.
434.	89.	64.	5.	89.	429.	2.	20.	805.	-7.	5510.	8.0	190.	500.
356.	88.	354.	13.	90.	357.	0.	0.	612.	-8.	3850.	6.3	240.	500.
344.	88.	329.	10.	89.	339.	1.	7.	794.	-11.	4000.	7.0	160.	530.
343.	88.	41.	15.	90.	333.	0.	0.	892.	-12.	4140.	7.6	150.	1200.
429.	88.	37.	1.	88.	428.	0.	4.	631.	-8.	4670.	6.6	20.	500.
403.	96.	243.	14.	95.	415.	0.	0.	1540.	-13.	6790.	10.1	180.	1230.
355.	80.	259.	18.	87.	373.	0.	5.	1614.	-12.	5010.	8.0	260.	1200.
350.	87.	249.	19.	89.	367.	0.	3.	1175.	-13.	5480.	8.7	0.	0.
420.	86.	133.	0.	86.	420.	-1.	13.	1732.	-17.	6090.	10.3	0.	0.
354.	81.	42.	8.	82.	347.	-1.	11.	1428.	-16.	5410.	9.3	70.	1030.
353.	81.	50.	3.	81.	354.	-1.	9.	1474.	-16.	5600.	9.6	30.	1200.
421.	53.	241.	9.	53.	436.	0.	3.	469.	-7.	4020.	5.6	0.	0.
338.	92.	244.	24.	90.	359.	0.	3.	515.	-7.	3460.	5.7	140.	1200.
352.	90.	258.	20.	89.	372.	1.	6.	492.	-7.	3680.	5.8	60.	600.
375.	96.	144.	9.	95.	369.	1.	7.	1506.	-14.	6120.	10.2	110.	500.
326.	93.	143.	8.	93.	323.	0.	2.	1356.	-16.	5080.	9.5	100.	500.
341.	88.	145.	8.	87.	336.	0.	2.	1384.	-15.	5340.	9.6	70.	800.
324.	90.	151.	6.	89.	321.	0.	0.	1392.	-16.	5150.	9.5	150.	500.
324.	90.	151.	6.	89.	321.	0.	0.	1392.	-16.	5150.	9.5	60.	400.
356.	87.	354.	19.	90.	357.	0.	1.	997.	-12.	4790.	8.0	0.	0.
353.	87.	12.	17.	89.	348.	-1.	8.	1017.	-13.	4620.	7.9	70.	200.
340.	86.	7.	18.	89.	337.	-1.	6.	999.	-13.	4500.	7.9	100.	600.
356.	86.	13.	20.	89.	350.	0.	3.	999.	-12.	4670.	8.0	110.	300.
428.	89.	256.	13.	89.	440.	0.	3.	1334.	-11.	6720.	9.5	0.	0.
423.	89.	248.	14.	88.	436.	0.	4.	1524.	-12.	7110.	10.3	60.	730.
436.	90.	263.	16.	90.	452.	0.	1.	1413.	-11.	6990.	9.7	100.	530.
352.	50.	263.	36.	53.	382.	0.	1.	1174.	-12.	5530.	8.7	150.	530.
334.	91.	202.	8.	90.	336.	2.	15.	1399.	-14.	5890.	10.1	200.	230.
345.	85.	261.	35.	85.	380.	0.	0.	1206.	-13.	5620.	8.9	110.	500.
339.	91.	268.	38.	91.	377.	1.	13.	1151.	-12.	5730.	9.1	250.	500.
407.	89.	204.	8.	88.	410.	0.	3.	1022.	-10.	5620.	8.3	260.	500.
336.	90.	257.	20.	89.	356.	0.	1.	981.	-12.	4780.	8.0	140.	530.
335.	61.	258.	23.	91.	358.	0.	3.	843.	-11.	4440.	7.3	170.	600.
337.	91.	268.	19.	90.	355.	0.	4.	882.	-12.	4370.	7.4	590.	1200.
334.	88.	282.	21.	89.	353.	-5.	50.	544.	-8.	2810.	4.5	700.	1100.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
339.	88.	281.	12.	88.	350.	-1.	5.	587.	-8.	3620.	6.0	40.	330.
344.	86.	290.	7.	87.	350.	0.	2.	602.	-8.	3720.	6.1	30.	530.
330.	89.	269.	15.	90.	343.	0.	3.	564.	-8.	3470.	5.9	0.	0.
335.	86.	302.	3.	87.	338.	0.	0.	605.	-9.	3620.	6.2	90.	100.
340.	88.	299.	12.	89.	351.	0.	4.	553.	-8.	3480.	5.8	40.	500.
451.	88.	347.	2.	88.	451.	0.	5.	767.	-9.	5120.	7.0	300.	1230.
428.	90.	182.	2.	90.	428.	0.	1.	855.	-9.	5240.	7.5	160.	600.
335.	92.	279.	4.	92.	339.	0.	0.	918.	-12.	4380.	7.7	0.	0.
331.	92.	275.	2.	92.	333.	0.	0.	919.	-13.	4350.	7.7	0.	0.
334.	92.	161.	2.	92.	334.	0.	1.	923.	-13.	4310.	7.7	0.	0.
339.	89.	12.	1.	89.	339.	0.	4.	951.	-12.	4560.	8.0	0.	0.
355.	86.	322.	8.	87.	360.	0.	3.	1142.	-12.	5140.	8.8	300.	630.
358.	89.	73.	15.	90.	343.	-1.	6.	966.	-13.	4330.	7.8	0.	0.
380.	89.	53.	8.	90.	344.	0.	0.	1000.	-10.	4980.	9.1	200.	630.
369.	89.	9.	6.	90.	368.	0.	1.	955.	-10.	4850.	8.0	180.	700.
357.	89.	347.	25.	89.	361.	0.	3.	968.	-10.	4870.	8.1	220.	630.
352.	90.	98.	24.	90.	328.	1.	6.	1159.	-14.	4990.	8.9	200.	1200.
356.	89.	159.	8.	89.	353.	0.	4.	929.	-12.	4860.	8.2	40.	400.
349.	90.	175.	6.	89.	348.	1.	7.	994.	-12.	4780.	8.6	140.	1200.
340.	89.	220.	7.	88.	350.	0.	3.	1027.	-11.	4890.	8.3	140.	1200.
455.	91.	200.	7.	91.	458.	-1.	14.	827.	-9.	5170.	7.0	280.	200.
353.	80.	217.	8.	79.	359.	0.	3.	949.	-12.	6650.	7.8	0.	0.
355.	91.	214.	12.	90.	361.	0.	1.	1022.	-12.	7950.	8.2	60.	1200.
351.	92.	222.	8.	92.	357.	-1.	9.	820.	-12.	6230.	7.0	110.	1130.
361.	91.	202.	12.	90.	366.	-1.	3.	926.	-11.	6800.	7.9	80.	100.
354.	91.	199.	8.	90.	357.	-1.	9.	858.	-12.	6360.	7.2	90.	330.
362.	93.	196.	4.	92.	364.	0.	2.	875.	-11.	6530.	7.5	30.	900.
432.	56.	44.	4.	56.	427.	1.	8.	1021.	-10.	5860.	8.5	80.	430.
332.	89.	106.	6.	89.	326.	0.	2.	852.	-12.	4110.	7.5	100.	430.
427.	91.	86.	5.	91.	422.	0.	1.	735.	-9.	4780.	6.9	340.	1200.
340.	90.	58.	2.	90.	338.	-2.	18.	723.	-11.	3650.	6.3	260.	1200.
400.	47.	258.	25.	48.	462.	0.	3.	1041.	-10.	5790.	8.4	0.	0.
355.	91.	263.	31.	90.	385.	1.	6.	946.	-11.	5600.	8.0	40.	600.
354.	61.	250.	13.	90.	366.	1.	16.	1118.	-11.	5020.	9.1	140.	600.
342.	61.	256.	28.	90.	369.	1.	9.	1002.	-11.	5250.	8.4	60.	330.
340.	61.	262.	28.	90.	367.	0.	3.	990.	-11.	5040.	8.1	100.	430.
250.	92.	219.	23.	89.	364.	0.	3.	854.	-11.	4630.	7.6	150.	1230.
421.	90.	39.	4.	91.	418.	1.	7.	988.	-10.	5630.	8.3	180.	930.
359.	94.	162.	4.	93.	358.	0.	3.	995.	-12.	4830.	8.2	0.	0.
341.	93.	182.	4.	92.	341.	1.	9.	1108.	-13.	4980.	8.8	60.	600.
352.	92.	163.	5.	91.	351.	0.	1.	954.	-12.	4670.	7.9	0.	0.
336.	94.	170.	4.	93.	335.	0.	1.	962.	-13.	4430.	7.9	100.	500.
340.	91.	157.	6.	91.	337.	0.	0.	930.	-12.	4420.	7.8	80.	600.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
340.	82.	157.	6.	81.	336.	0.	0.	951.	-13.	4410.	7.9	140.	500.
350.	78.	134.	6.	77.	347.	0.	1.	961.	-12.	4590.	8.0	0.	0.
347.	77.	134.	6.	76.	344.	-1.	7.	947.	-13.	4390.	7.6	0.	0.
370.	84.	37.	9.	85.	363.	0.	1.	1120.	-13.	6090.	8.5	80.	130.
342.	83.	49.	11.	84.	333.	1.	7.	1091.	-13.	6790.	8.7	60.	1030.
338.	83.	50.	9.	84.	330.	0.	1.	1069.	-13.	6610.	8.4	60.	500.
335.	85.	50.	9.	86.	328.	-1.	8.	1101.	-14.	6510.	8.2	60.	430.
337.	82.	59.	9.	82.	328.	1.	6.	1049.	-13.	6630.	8.5	0.	0.
345.	81.	35.	12.	83.	336.	0.	1.	1159.	-14.	6870.	8.7	0.	0.
341.	82.	38.	12.	83.	333.	0.	3.	1109.	-13.	6780.	8.6	0.	0.
345.	81.	37.	15.	83.	334.	0.	2.	1204.	-14.	6920.	8.8	0.	0.
334.	82.	39.	15.	84.	323.	1.	5.	1199.	-15.	6840.	9.0	30.	430.
341.	81.	136.	10.	79.	335.	0.	3.	1091.	-14.	6650.	8.3	40.	400.
316.	78.	137.	11.	76.	311.	-1.	7.	996.	-14.	6110.	7.8	30.	300.
342.	80.	129.	11.	78.	335.	0.	0.	918.	-12.	7370.	7.7	0.	0.
350.	77.	132.	8.	76.	346.	-1.	7.	1200.	-15.	6970.	8.7	60.	300.
342.	79.	135.	10.	78.	336.	0.	4.	944.	-13.	6310.	7.7	0.	0.
334.	80.	130.	10.	78.	327.	-1.	7.	897.	-13.	6070.	7.4	0.	0.
346.	81.	135.	11.	79.	339.	-1.	9.	874.	-13.	6120.	7.3	0.	0.
345.	80.	135.	12.	78.	338.	-1.	6.	933.	-13.	6350.	7.6	20.	100.
343.	79.	132.	11.	78.	337.	-1.	6.	910.	-13.	6220.	7.5	60.	100.
345.	80.	126.	10.	78.	338.	0.	2.	951.	-13.	6430.	7.8	80.	1200.
342.	80.	119.	8.	79.	336.	-1.	7.	1022.	-15.	6490.	8.0	0.	0.
438.	91.	241.	10.	91.	446.	2.	15.	653.	-8.	5120.	7.2	30.	1030.
315.	91.	211.	4.	90.	317.	1.	13.	814.	-12.	4200.	7.8	30.	1000.
321.	90.	311.	6.	91.	325.	1.	9.	749.	-11.	4040.	7.2	0.	0.
311.	89.	305.	9.	90.	319.	0.	0.	704.	-10.	3690.	6.7	30.	600.
319.	90.	316.	5.	91.	323.	1.	6.	653.	-10.	3680.	6.7	0.	0.
341.	90.	260.	31.	90.	371.	0.	1.	905.	-11.	4810.	7.6	20.	100.
335.	91.	265.	30.	90.	365.	0.	2.	863.	-11.	4560.	7.4	0.	0.
340.	90.	257.	17.	89.	357.	1.	9.	921.	-11.	4790.	8.0	180.	1200.
355.	91.	221.	11.	84.	362.	1.	9.	918.	-11.	4820.	8.0	30.	600.
352.	90.	206.	6.	89.	355.	1.	7.	933.	-11.	4720.	8.0	80.	330.
351.	89.	182.	13.	87.	352.	1.	8.	1075.	-12.	5050.	8.7	220.	300.
328.	90.	245.	12.	89.	348.	1.	11.	1087.	-13.	5000.	8.8	120.	600.
341.	89.	251.	13.	89.	353.	0.	0.	918.	-12.	4610.	7.3	80.	700.
335.	89.	254.	30.	88.	384.	-2.	3.	573.	-8.	4000.	6.2	0.	0.
348.	89.	261.	32.	88.	380.	0.	1.	543.	-8.	2810.	5.9	390.	1200.
336.	89.	254.	34.	88.	369.	0.	0.	627.	-8.	6620.	6.4	590.	600.
357.	88.	259.	39.	85.	401.	0.	5.	543.	-8.	6100.	6.1	260.	300.
337.	88.	263.	31.	87.	369.	1.	11.	980.	-11.	4130.	8.3	0.	0.
355.	87.	249.	49.	85.	382.	4.	13.	1102.	-11.	6660.	8.9	290.	430.
290.	91.	239.	13.	90.	301.	1.	6.	604.	-9.	3360.	6.4	20.	300.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
351.	86.	44.	20.	88.	336.	1.	2.	798.	-10.	4000.	7.0	20.	600.
361.	87.	51.	14.	88.	350.	1.	3.	781.	-8.	3780.	6.3	40.	1200.
347.	86.	33.	16.	89.	337.	1.	6.	776.	-11.	4140.	7.2	30.	800.
342.	86.	32.	14.	89.	333.	0.	3.	774.	-9.	3480.	6.0	30.	100.
343.	86.	35.	13.	88.	335.	1.	1.	742.	-11.	4370.	7.7	100.	500.
352.	87.	42.	15.	89.	342.	1.	3.	766.	-11.	4590.	8.0	60.	1000.
440.	89.	62.	12.	89.	429.	2.	21.	780.	-9.	5700.	8.3	120.	100.
365.	87.	49.	16.	89.	352.	0.	3.	794.	-10.	3910.	6.7	120.	100.
346.	88.	47.	18.	90.	332.	0.	1.	812.	-11.	3940.	7.0	50.	600.
365.	88.	44.	15.	89.	349.	1.	9.	804.	-11.	4500.	7.7	30.	800.
398.	88.	44.	15.	89.	387.	0.	3.	790.	-8.	3910.	6.0	60.	930.
441.	98.	209.	30.	94.	453.	0.	4.	820.	-9.	5310.	7.2	160.	800.
385.	99.	216.	27.	95.	398.	-1.	12.	891.	-10.	4850.	7.3	350.	800.
350.	86.	260.	18.	86.	368.	-1.	8.	606.	-9.	3750.	6.0	350.	700.
459.	64.	284.	4.	64.	462.	0.	7.	1094.	-9.	6450.	8.8	180.	500.
366.	90.	246.	7.	90.	372.	0.	1.	911.	-10.	4870.	7.8	300.	500.
356.	90.	273.	15.	90.	371.	1.	11.	965.	-11.	5210.	8.3	200.	500.
352.	90.	289.	3.	90.	354.	0.	3.	868.	-12.	4510.	7.6	0.	0.
367.	90.	354.	4.	90.	370.	0.	1.	921.	-12.	4760.	7.7	120.	1200.
331.	85.	72.	5.	85.	326.	0.	2.	1065.	-13.	4580.	8.4	160.	500.
330.	88.	12.	3.	89.	329.	1.	9.	1059.	-13.	4700.	8.6	100.	600.
318.	87.	66.	2.	88.	317.	0.	2.	976.	-13.	4290.	7.9	140.	700.
340.	61.	256.	16.	90.	355.	0.	3.	972.	-12.	4760.	7.9	60.	500.
355.	92.	266.	26.	91.	381.	1.	7.	1178.	-12.	5680.	9.0	260.	600.
349.	88.	112.	4.	88.	345.	0.	1.	938.	-12.	4460.	7.8	360.	600.
347.	89.	88.	2.	89.	344.	0.	1.	970.	-12.	4560.	8.0	100.	500.
344.	89.	70.	4.	89.	340.	1.	7.	1020.	-13.	4730.	8.4	150.	1200.
315.	90.	328.	3.	90.	316.	0.	3.	671.	-10.	3630.	6.6	0.	0.
317.	89.	334.	5.	90.	319.	0.	3.	773.	-11.	3910.	7.2	40.	700.
321.	92.	254.	21.	91.	341.	0.	3.	867.	-12.	4340.	7.4	30.	630.
321.	91.	248.	22.	90.	341.	0.	0.	899.	-12.	4400.	7.6	0.	0.
320.	92.	244.	21.	90.	339.	1.	7.	877.	-11.	4450.	7.8	0.	0.
322.	61.	252.	21.	90.	342.	0.	3.	918.	-12.	4540.	7.8	30.	130.
327.	92.	245.	18.	90.	343.	0.	0.	881.	-12.	4420.	7.6	20.	700.
303.	93.	253.	25.	91.	326.	0.	3.	1026.	-13.	4580.	8.3	140.	700.
388.	90.	255.	12.	90.	400.	-1.	13.	779.	-10.	4480.	6.7	200.	600.
320.	81.	289.	9.	82.	328.	-2.	17.	768.	-11.	3760.	6.6	50.	500.
301.	76.	271.	5.	76.	306.	-1.	8.	544.	-7.	2990.	5.6	140.	600.
309.	87.	328.	3.	88.	311.	-1.	8.	738.	-10.	3550.	6.6	80.	500.
321.	88.	325.	4.	89.	323.	-1.	13.	864.	-12.	3910.	7.0	70.	630.
324.	94.	254.	31.	92.	354.	0.	0.	804.	-11.	4390.	7.2	0.	0.
327.	89.	268.	25.	89.	352.	0.	1.	915.	-12.	4580.	7.7	60.	100.
330.	89.	258.	30.	88.	359.	0.	0.	767.	-11.	4290.	7.0	0.	0.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
329.	90.	270.	29.	90.	358.	0.	0.	784.	-11.	4310.	7.1	0.	0.
340.	87.	267.	29.	87.	369.	0.	3.	815.	-10.	4610.	7.3	0.	0.
331.	87.	267.	27.	87.	358.	0.	2.	793.	-11.	4430.	7.2	0.	0.
328.	91.	256.	32.	89.	359.	0.	3.	766.	-11.	4250.	6.9	0.	0.
330.	92.	257.	26.	91.	355.	0.	0.	1113.	-13.	5120.	8.5	0.	0.
328.	92.	256.	34.	90.	361.	0.	3.	794.	-10.	4420.	7.2	90.	600.
326.	88.	264.	22.	88.	348.	0.	3.	1055.	-13.	4790.	8.2	50.	200.
322.	87.	269.	27.	87.	349.	0.	1.	1035.	-12.	4870.	8.2	40.	1000.
326.	90.	258.	29.	89.	354.	0.	1.	978.	-12.	4780.	7.9	30.	200.
474.	94.	247.	35.	90.	494.	1.	10.	986.	-8.	6710.	8.5	180.	400.
344.	94.	223.	39.	90.	369.	0.	5.	744.	-9.	4250.	6.8	240.	200.
354.	94.	221.	39.	90.	379.	1.	7.	1490.	-14.	6320.	10.2	80.	300.
351.	95.	224.	40.	90.	377.	0.	2.	1260.	-13.	5680.	9.0	50.	300.
357.	94.	224.	37.	89.	382.	0.	3.	1411.	-14.	6020.	9.5	150.	730.
353.	96.	219.	37.	91.	374.	0.	5.	1419.	-14.	6090.	9.8	60.	700.
459.	90.	266.	28.	90.	487.	0.	3.	985.	-9.	6840.	8.2	160.	600.
332.	90.	276.	13.	90.	345.	0.	0.	1049.	-12.	5030.	8.3	50.	500.
351.	90.	267.	28.	90.	380.	0.	2.	1109.	-12.	5410.	8.5	200.	600.
354.	85.	35.	30.	89.	336.	0.	1.	907.	-12.	4340.	7.7	20.	900.
338.	87.	35.	29.	92.	321.	0.	3.	962.	-13.	4200.	7.8	20.	300.
345.	84.	37.	30.	88.	365.	0.	3.	987.	-13.	4400.	8.1	10.	1000.
343.	84.	38.	29.	88.	324.	0.	7.	1035.	-14.	4510.	8.5	60.	900.
347.	85.	37.	28.	88.	330.	0.	3.	965.	-13.	4470.	8.0	30.	200.
327.	86.	39.	27.	89.	309.	2.	15.	1258.	-15.	4860.	9.5	30.	1200.
342.	85.	31.	29.	90.	326.	0.	3.	1030.	-14.	4430.	8.1	20.	700.
337.	86.	31.	31.	91.	320.	0.	3.	964.	-13.	4290.	8.0	20.	700.
359.	85.	34.	29.	88.	342.	0.	1.	1036.	-13.	4690.	8.3	50.	1100.
350.	84.	31.	31.	88.	331.	0.	0.	911.	-12.	4260.	7.7	20.	1000.
353.	84.	36.	29.	88.	335.	0.	3.	1042.	-13.	4660.	8.4	0.	0.
468.	87.	66.	7.	87.	462.	0.	0.	966.	-9.	6070.	8.2	80.	1230.
440.	87.	2.	9.	89.	438.	-3.	43.	853.	-12.	4580.	6.2	1260.	1200.
336.	88.	253.	13.	88.	348.	-2.	16.	820.	-10.	4000.	6.8	320.	1130.
353.	89.	216.	9.	88.	359.	1.	9.	997.	-10.	4950.	8.3	110.	130.
439.	89.	257.	7.	89.	446.	0.	3.	907.	-9.	5690.	7.9	160.	200.
420.	91.	267.	13.	91.	432.	0.	3.	927.	-9.	5550.	8.0	110.	530.
356.	90.	278.	7.	90.	362.	0.	2.	821.	-11.	4440.	7.4	160.	630.
386.	87.	354.	13.	89.	387.	2.	15.	1531.	-15.	6580.	10.7	40.	1100.
377.	88.	7.	12.	90.	375.	1.	7.	1375.	-15.	5940.	9.9	80.	100.
379.	87.	288.	10.	88.	389.	1.	6.	1396.	-14.	6240.	9.8	100.	400.
373.	87.	350.	6.	88.	373.	0.	1.	1274.	-14.	5690.	9.2	70.	330.
366.	81.	84.	12.	81.	354.	0.	14.	1446.	-15.	5710.	9.9	650.	1100.
343.	78.	275.	6.	78.	349.	0.	3.	913.	-12.	7900.	7.8	20.	430.
380.	81.	284.	10.	82.	389.	1.	5.	1050.	-12.	5410.	8.7	40.	930.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
346.	78.	301.	6.	79.	350.	1.	1.	985.	-12.	4710.	8.3	20.	430.
339.	78.	248.	5.	77.	344.	1.	1.	929.	-12.	4510.	8.1	30.	330.
342.	74.	285.	4.	75.	346.	1.	0.	902.	-12.	4420.	7.9	0.	0.
335.	75.	279.	6.	75.	340.	1.	4.	846.	-12.	4310.	7.8	140.	430.
410.	51.	109.	4.	51.	408.	0.	3.	942.	-10.	5260.	8.0	100.	500.
355.	89.	24.	9.	90.	351.	0.	2.	1032.	-12.	4760.	8.1	40.	600.
41.	89.	20.	6.	90.	339.	3.	12.	913.	-11.	4570.	8.1	60.	530.
342.	89.	357.	6.	90.	343.	0.	3.	1000.	-12.	4650.	8.2	0.	0.
353.	89.	44.	9.	90.	346.	-1.	8.	1091.	-13.	4950.	8.7	40.	1200.
324.	88.	9.	7.	90.	323.	2.	15.	1152.	-13.	4920.	9.2	80.	500.
412.	83.	172.	7.	83.	412.	0.	2.	862.	-10.	5000.	7.6	120.	300.
426.	91.	190.	4.	91.	426.	0.	4.	942.	-9.	5560.	8.1	80.	500.
403.	87.	285.	3.	87.	406.	0.	5.	807.	-9.	4880.	7.5	220.	630.
418.	91.	257.	29.	90.	445.	1.	15.	815.	-8.	5620.	7.8	100.	100.
420.	92.	244.	28.	90.	445.	1.	9.	998.	-10.	6050.	8.4	100.	200.
454.	89.	240.	29.	87.	379.	0.	3.	857.	-10.	4890.	7.6	180.	300.
356.	85.	254.	29.	84.	384.	1.	7.	591.	-11.	5210.	8.1	120.	400.
338.	89.	265.	27.	88.	366.	1.	6.	958.	-11.	4980.	8.1	80.	500.
457.	86.	265.	22.	86.	479.	0.	4.	1135.	-10.	6600.	8.6	300.	1200.
425.	48.	26.	7.	48.	417.	1.	8.	1031.	-10.	5710.	8.5	160.	600.
372.	88.	186.	4.	88.	373.	1.	7.	835.	-11.	7440.	7.6	20.	200.
358.	91.	159.	4.	90.	357.	1.	6.	1083.	-13.	6820.	8.6	20.	600.
376.	90.	176.	4.	89.	375.	0.	5.	1071.	-12.	6730.	8.6	100.	400.
347.	89.	275.	36.	90.	384.	0.	0.	1013.	-11.	5260.	8.1	60.	700.
345.	90.	273.	45.	90.	389.	0.	1.	1045.	-11.	5470.	8.3	80.	700.
341.	90.	263.	36.	89.	377.	0.	0.	981.	-11.	5100.	8.0	160.	430.
340.	89.	256.	24.	89.	362.	0.	3.	970.	-12.	4820.	7.8	180.	100.
362.	92.	265.	17.	92.	378.	-1.	16.	729.	-10.	4180.	6.4	260.	1100.
349.	86.	13.	24.	90.	342.	0.	2.	1033.	-13.	4750.	8.3	30.	600.
360.	83.	60.	36.	85.	327.	0.	2.	1050.	-13.	4580.	8.4	300.	1200.
336.	81.	358.	23.	85.	333.	0.	3.	1020.	-13.	4660.	8.2	330.	530.
326.	91.	246.	5.	91.	331.	0.	1.	835.	-11.	4350.	7.3	80.	730.
328.	90.	256.	26.	89.	354.	1.	6.	896.	-11.	4810.	7.8	220.	600.
321.	90.	240.	13.	89.	332.	0.	3.	739.	-10.	4010.	7.0	40.	630.
366.	74.	312.	22.	77.	378.	0.	2.	942.	-11.	6000.	7.9	200.	1200.
409.	90.	185.	7.	89.	409.	-1.	8.	536.	-8.	3870.	5.7	220.	1230.
348.	90.	203.	5.	89.	350.	0.	1.	820.	-11.	4310.	7.3	420.	1230.
347.	90.	174.	2.	90.	347.	0.	0.	999.	-11.	4710.	8.1	520.	530.
343.	90.	241.	4.	90.	346.	0.	2.	718.	-11.	4000.	6.9	200.	1200.
412.	91.	200.	34.	87.	424.	2.	28.	1348.	-11.	3990.	10.4	390.	100.
349.	92.	205.	28.	88.	361.	0.	2.	1052.	-12.	5030.	8.3	200.	100.
457.	91.	253.	37.	90.	491.	0.	3.	1737.	-9.	6410.	8.1	100.	1100.
339.	93.	254.	38.	91.	376.	0.	4.	1003.	-11.	5070.	7.9	100.	600.

TAS	TH	WDIR	WKTS	GT	GS	RA	VZ	VSEP	DA	SR	TOF	HIT	AZ
339.	93.	241.	35.	90.	370.	0.	1.	457.	-8.	3450.	5.4	50.	900.
330.	89.	265.	31.	88.	360.	0.	0.	558.	-9.	3760.	6.0	280.	800.
344.	86.	294.	28.	88.	369.	0.	0.	600.	-9.	3430.	6.2	300.	600.
438.	47.	84.	9.	46.	431.	0.	3.	1036.	-10.	5840.	8.4	60.	400.
349.	89.	99.	10.	89.	339.	0.	3.	1109.	-13.	4900.	8.6	80.	100.
356.	89.	116.	5.	88.	352.	-1.	6.	956.	-12.	4550.	7.7	130.	1200.
342.	90.	23.	5.	90.	340.	0.	3.	957.	-12.	4670.	8.0	90.	630.
342.	88.	18.	3.	89.	341.	1.	13.	1226.	-13.	5330.	9.4	20.	630.
456.	90.	55.	8.	90.	449.	0.	3.	901.	-9.	5670.	7.8	150.	600.
439.	89.	304.	8.	90.	446.	1.	12.	1193.	-8.	5340.	7.4	370.	600.
347.	50.	340.	11.	52.	343.	0.	0.	868.	-12.	6360.	7.5	160.	100.
332.	80.	39.	3.	80.	329.	0.	5.	867.	-12.	4170.	7.6	60.	500.
333.	79.	74.	2.	79.	331.	0.	3.	902.	-12.	6290.	7.7	60.	600.
463.	90.	240.	8.	89.	469.	0.	3.	898.	-10.	5790.	7.6	50.	330.
371.	88.	274.	11.	88.	381.	0.	0.	846.	-11.	4740.	7.4	0.	0.
356.	90.	233.	10.	89.	364.	0.	0.	756.	-11.	4280.	7.0	70.	330.
345.	89.	213.	6.	89.	349.	-1.	6.	731.	-12.	4040.	6.9	40.	400.
347.	89.	352.	9.	89.	355.	1.	14.	718.	-11.	4320.	7.2	0.	0.
333.	90.	354.	13.	89.	345.	1.	11.	852.	-12.	4510.	7.2	50.	600.
419.	90.	261.	21.	90.	440.	0.	6.	945.	-9.	5490.	7.7	60.	500.
421.	90.	264.	21.	90.	441.	0.	3.	954.	-9.	5790.	8.0	0.	0.
425.	90.	259.	27.	90.	450.	0.	0.	858.	-9.	5530.	7.5	100.	500.
455.	92.	249.	14.	91.	467.	0.	1.	825.	-8.	5600.	7.4	0.	0.
465.	91.	258.	17.	90.	482.	1.	15.	978.	-8.	6560.	8.6	100.	700.
428.	91.	256.	18.	91.	445.	0.	1.	933.	-9.	5680.	7.9	50.	600.
425.	90.	251.	17.	90.	441.	0.	1.	931.	-9.	5760.	7.9	30.	400.
426.	90.	265.	21.	89.	447.	0.	4.	926.	-9.	5830.	8.0	80.	600.
419.	90.	267.	23.	90.	439.	0.	6.	945.	-9.	5780.	8.1	60.	700.
309.	89.	129.	3.	89.	306.	1.	9.	941.	-13.	4300.	8.1	80.	500.
319.	89.	280.	13.	89.	331.	-1.	8.	979.	-13.	4370.	7.7	170.	530.
323.	88.	47.	14.	89.	416.	0.	5.	1064.	-11.	5530.	8.2	60.	200.
336.	87.	7.	8.	89.	334.	0.	4.	891.	-12.	4220.	7.5	0.	0.
326.	89.	51.	10.	90.	321.	0.	2.	847.	-12.	4080.	7.5	60.	100.
323.	88.	287.	9.	89.	331.	-1.	6.	906.	-13.	4220.	7.5	100.	500.
316.	89.	252.	5.	88.	321.	0.	2.	880.	-13.	4110.	7.5	20.	100.
305.	88.	13.	5.	89.	303.	0.	3.	903.	-13.	4010.	7.5	40.	100.
346.	88.	56.	8.	89.	346.	0.	0.	1048.	-12.	4760.	8.3	400.	500.
365.	88.	30.	10.	89.	360.	0.	4.	1030.	-12.	4950.	8.4	240.	630.
396.	89.	37.	9.	90.	391.	0.	6.	1014.	-11.	5090.	8.0	300.	630.

APPENDIX D

This appendix contains the output which compares the experimental data with the FORTRAN version of the ballistics algorithm using the old set of mach, drag, and weapon coefficients. The weapon used for this experiment was the MK-76 MOD-5 25 pound practice bomb.

The coefficients are all assigned in the DECODE subroutine (see Ref. 3 for further explanation of these coefficients). Both sets of coefficients, old and new, are summarized here for the reader's convenience.

Weapon Coefficients

Old Coefficients	New Coefficients
IREF = 2	IREF = 2
IBOTH = 1	IBOTH = 1
ITYPE = -1	ITYPE = -1
DMAX = 3.0	DMAX = 6.0
CFORM1 = 0.0039077	CFORM1 = .1064453
CFORM2 = 0.0	CFORM2 = 0.0
DKG1 = 0.0063648	DKG1 = -.0043918
DKG2 = 0.0	DKG2 = 0.0
DM1 = 0.0	DM1 = -.270
DM2 = 0.0	DM2 = -.270
VMUZ = 0.0	VMUZ = 0.0
FN = 0.0	FN = 0.0
VE = 0.0	VE = 0.0
SL = 0.0	SL = 0.0
DS = 0.0	DS = 0.0

DRAG COEFFICIENTS

Old Coefficients

```
31  Go to (32,33,34,51),IREF
32  CC(1,1,1) = 1.572924-03
    CC(1,2,1) = 0.0
    CC(1,3,1) = 0.0
    CC(2,1,1) = 4.678409E-02
    CC(2,2,1) = 0.109711069
    CC(2,3,1) = 6.654801E-02
    CC(3,1,1) = 0.116380157
    CC(3,2,1) = 0.217643894
    CC(3,3,1) = -9.767068E-02
    CT(1,1) =0.834
    CT(2,1) = 0.977
    If (IBOTH-1) 33,51,33

33  CC(1,1,IBOTH) = 3.53503924
    CC(1,2,IBOTH) = -3.34778216
    CC(1,3,IBOTH) = 2.87262413
    CC(2,1,IBOTH) = 11.2616503
    CC(2,2,IBOTH) = -27.4162512
    CC(2,3,IBOTH) = 21.7308359
    CC(3,1,IBOTH) = -23.7915472
    CC(3,2,IBOTH) = 44.2607764
    CC(3,3,IBOTH) = -14.4996046
    CT(1,IBOTH) = 0.622
    CT(2,IBOTH) = 0.885
    Go to 51
```

New Coefficients

```
311 MSTG=1
    Go to (32,33,34,51), IREF
32  CC(1,1,MSTG) = 1.572924E-3
    CC(1,2,MSTG) = 0.0
    CC(1,3,MSTG) = 0.0
    CC(2,1,MSTG) = 4.67840889E-2
    CC(2,2,MSTG) = -.109711069
    CC(2,3,MSTG) = 6.6548007E-2
    CC(3,1,MSTG) = -.116380157
    CC(3,2,MSTG) = .217643894
    CC(3,3,MSTG) = -9.76706845E-2
    CT(1,MSTG) = .834
    CT(2,MSTG) = .977
    If (IBOTH.EQ.1) go to 51

33  CC(1,1,MSTG) = .173244
    CC(1,2,MSTG) = 0.
    CC(1,3,MSTG) = 0.
    CC(2,1,MSTG) = .215467
    CC(2,2,MSTG) = .285067
    CC(2,3,MSTG) = .489778
    CC(3,1,MSTG) = -.0039111
    CC(3,2,MSTG) = .5880
    CC(3,3,MSTG) = -.373244
    CT(1,MSTG) = .27
    CT(2,MSTG) = .52
    If (IBOTH.EQ.1) go to 51
    If(IREF.EQ.1) go to 51
```

Old Coefficients

```
34   CC(1,1,1) = 0.104115
     CC(1,2,1) = -0.230347
     CC(1,3,1) = 0.167644
     CC(2,1,1) = -0.194037
     CC(2,2,1) = 0.401478
     CC(2,3,1) = -0.164612
     CC(3,1,1) = 7.33246E-02
     CC(3,2,1)= -2.03275E-02
     CC(3,3,1) = 2.44682E-03
     CT(1,1) = 1.032
     CT(2,1) = 1.30
```

New Coefficients

```
     MSTG=2
34   CC(1,1,MSTG) = .104115
     CC(1,2,MSTG) = -.230347
     CC(1,3,MSTG) = .167644
     CC(2,1,MSTG) = -.194037
     CC(2,2,MSTG) = .401478
     CC(2,3,MSTG) = -.164612
     CC(3,1,MSTG) = 7.33246E-2
     CC(3,2,MSTG) = -2.03275E-2
     CC(3,3,MSTG) = 2.44682E-3
     CT(1,MSTG) = 1.032
     CT(2,MSTG) = 1.3
```

MK-76 MOD-5 WITH OLD COEFFICIENTS

			ACTUAL DELIVERY A-6E FREEZE DATA		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	421.	1389.	9.80	6411.	9.65	6081.	-0.15	-330.	-1.60	-5.43
1.	378.	1413.	9.90	5842.	10.05	5679.	0.15	-162.	1.48	-2.86
0.	377.	1452.	9.80	5853.	9.84	5628.	0.04	-224.	0.38	-3.99
1.	376.	1615.	10.60	6193.	10.74	6010.	0.14	-183.	1.31	-3.05
0.	363.	1388.	9.70	5580.	9.60	5262.	-0.10	-318.	-1.04	-6.04
-1.	382.	1276.	9.00	5412.	8.86	5085.	-0.14	-327.	-1.55	-6.43
2.	374.	797.	7.80	4673.	7.93	4442.	0.13	-231.	1.59	-5.19
-1.	377.	1356.	9.00	5423.	9.16	5223.	0.16	-200.	1.72	-3.83
1.	374.	1466.	10.40	6065.	10.23	5758.	-0.17	-307.	-1.67	-5.33
0.	451.	922.	8.00	5665.	7.82	5293.	-0.18	-372.	-2.34	-7.03
1.	398.	970.	8.50	5668.	8.37	5310.	-0.13	-358.	-1.60	-6.74
0.	415.	407.	5.30	3607.	5.12	3285.	-0.18	-322.	-3.61	-9.80
0.	362.	501.	5.70	3494.	5.68	3216.	-0.02	-279.	-0.35	-8.66
2.	340.	610.	6.80	3741.	6.93	3576.	0.13	-164.	1.82	-4.60
1.	359.	500.	5.60	3333.	6.01	3353.	0.41	20.	6.82	0.60
0.	359.	516.	5.70	3350.	5.77	3195.	0.07	-156.	1.14	-4.87
0.	421.	1051.	8.20	5836.	8.35	5614.	0.15	-222.	1.77	-3.95
0.	340.	793.	7.20	4338.	7.18	4059.	-0.02	-279.	-0.24	-6.87
0.	331.	961.	7.80	4509.	7.92	4345.	0.12	-164.	1.57	-3.77
0.	335.	1118.	8.60	5007.	8.57	4712.	-0.03	-295.	-0.36	-6.25
0.	384.	975.	8.00	5372.	8.01	5039.	0.01	-334.	0.13	-6.62
0.	355.	1057.	8.40	5102.	8.34	4833.	-0.06	-268.	-0.77	-5.55
0.	342.	957.	7.80	4591.	7.91	4478.	0.11	-113.	1.43	-2.52
1.	325.	924.	8.00	4731.	8.06	4521.	0.06	-209.	0.80	-4.63
0.	423.	1042.	8.50	5949.	8.31	5562.	-0.19	-387.	-2.27	-6.96
0.	405.	1100.	8.60	5746.	8.54	5470.	-0.06	-276.	-0.73	-5.05
0.	401.	1056.	8.40	5469.	8.36	5122.	-0.04	-347.	-0.52	-6.77
1.	372.	510.	6.00	3584.	6.08	3347.	0.08	-237.	1.37	-7.07
1.	370.	944.	8.20	4563.	8.21	4346.	0.01	-217.	0.18	-5.00
0.	328.	911.	7.70	4059.	7.71	3837.	0.01	-222.	0.11	-5.79
1.	321.	824.	7.50	3812.	7.62	3673.	0.12	-139.	1.52	-3.78
0.	326.	929.	7.90	4065.	7.79	3813.	-0.11	-252.	-1.47	-6.60
0.	331.	891.	7.60	3930.	7.62	3773.	0.02	-157.	0.29	-4.17
0.	354.	817.	7.20	4171.	7.30	4004.	0.10	-166.	1.36	-4.16
-1.	351.	684.	6.40	3829.	6.35	3509.	-0.05	-321.	-0.81	-9.15
-1.	439.	779.	6.90	5253.	6.77	4903.	-0.13	-350.	-1.93	-7.13
0.	336.	747.	7.00	4194.	6.96	4001.	-0.04	-193.	-0.52	-4.83
0.	329.	744.	6.90	4134.	6.95	3944.	0.05	-189.	0.68	-4.80
0.	427.	908.	7.90	5779.	7.74	5392.	-0.16	-387.	-2.04	-7.17
0.	387.	917.	7.90	5251.	7.76	4907.	-0.14	-344.	-1.77	-7.00

MK-76 MOD-5 WITH OLD COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
1.	393.	909.	8.00	5404.	8.10	5159.	0.10	-245.	1.18	-4.75
0.	353.	1124.	8.50	5292.	8.60	5070.	0.10	-222.	1.20	-4.38
0.	348.	990.	8.00	4492.	8.06	4274.	0.06	-219.	0.69	-5.11
1.	347.	990.	8.20	4564.	8.38	4443.	0.18	-120.	2.11	-2.71
1.	349.	959.	8.20	4611.	8.25	4421.	0.05	-191.	0.59	-4.31
2.	342.	962.	8.60	4662.	8.58	4434.	-0.02	-227.	-0.24	-5.13
0.	357.	879.	7.60	4464.	7.58	4149.	-0.02	-316.	-0.25	-7.61
0.	354.	912.	7.70	4345.	7.72	4160.	0.02	-185.	0.32	-4.45
0.	359.	988.	8.20	4697.	8.05	4386.	-0.15	-311.	-1.83	-7.08
1.	349.	880.	7.80	4372.	7.91	4209.	0.11	-163.	1.34	-3.88
0.	340.	927.	7.80	4199.	7.78	4002.	-0.02	-197.	-0.21	-4.93
1.	348.	934.	8.10	4596.	8.14	4335.	0.04	-261.	0.50	-6.01
0.	354.	851.	7.30	4184.	7.45	4052.	0.15	-132.	2.07	-3.27
0.	412.	1023.	8.20	3660.	8.23	5401.	0.03	1741.	0.32	32.24
0.	321.	1096.	8.60	4745.	8.47	4481.	-0.13	-264.	-1.49	-5.89
0.	322.	990.	8.00	4472.	8.04	4236.	0.04	-235.	0.52	-5.56
0.	325.	996.	8.00	4501.	8.07	3730.	0.07	-771.	0.85	-20.66
1.	324.	1013.	8.30	4620.	8.44	4479.	0.14	-142.	1.65	-3.16
0.	332.	967.	8.00	4518.	7.95	4306.	-0.05	-212.	-0.62	-4.92
0.	356.	926.	7.80	4373.	7.79	4490.	-0.01	117.	-0.17	2.60
1.	314.	989.	8.30	4523.	8.32	4295.	0.02	-228.	0.30	-5.30
0.	325.	1002.	8.20	4520.	8.09	4299.	-0.11	-221.	-1.31	-5.15
0.	339.	961.	8.00	4601.	7.93	4354.	-0.07	-246.	-0.90	-5.66
0.	323.	967.	8.00	4426.	7.95	4177.	-0.05	-249.	-0.68	-5.96
1.	324.	1045.	8.50	4695.	8.57	3946.	0.07	-750.	0.82	-19.00
1.	418.	1264.	9.50	6203.	9.57	5928.	0.07	-275.	0.72	-4.64
-1.	341.	1109.	8.30	4680.	8.23	4338.	-0.07	-342.	-0.84	-7.89
-1.	403.	1128.	8.30	5332.	8.29	5033.	-0.01	-299.	-0.14	-5.94
0.	388.	1152.	8.70	5388.	8.73	5110.	0.03	-279.	0.39	-5.45
0.	371.	1065.	8.20	4885.	8.38	4731.	0.18	-154.	2.11	-3.25
-1.	368.	1057.	7.90	4518.	8.01	4235.	0.11	-283.	1.42	-6.69
1.	429.	1004.	8.40	6037.	8.55	5817.	0.15	-220.	1.80	-3.78
0.	320.	983.	8.10	4637.	8.01	4338.	-0.09	-299.	-1.10	-6.89
0.	328.	1056.	8.30	4785.	8.32	4569.	0.02	-216.	0.20	-4.72
0.	321.	964.	8.00	4549.	7.93	4237.	-0.07	-312.	-0.85	-7.37
0.	315.	930.	7.60	4342.	7.78	4142.	0.18	-199.	2.37	-4.82
0.	318.	1021.	8.20	4711.	8.17	4418.	-0.03	-293.	-0.38	-6.63
0.	308.	1003.	8.20	4459.	8.09	4208.	-0.11	-250.	-1.37	-5.94
0.	311.	937.	7.80	4422.	7.81	4144.	0.01	-278.	0.16	-6.71
0.	311.	944.	7.80	4369.	7.84	4117.	0.04	-253.	0.54	-6.14

MK-76 MOD-5 WITH OLD COEFFICIENTS

			ACTUAL DELIVERY A-6E FREEZE DATA		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	330.	926.	7.70	4526.	7.77	4285.	0.07	-241.	0.96	-5.62
0.	324.	938.	7.70	4462.	7.82	4253.	0.12	-210.	1.57	-4.93
0.	312.	1142.	8.50	4652.	8.65	4488.	0.15	-163.	1.73	-3.64
0.	304.	1014.	8.10	4395.	8.13	4203.	0.03	-191.	0.40	-4.55
0.	261.	956.	7.80	3812.	7.87	3579.	0.07	-233.	0.88	-6.50
1.	312.	1068.	8.50	4700.	8.65	4531.	0.15	-169.	1.68	-3.74
0.	326.	1003.	8.00	4633.	8.10	4431.	0.10	-202.	1.21	-4.56
0.	325.	992.	8.00	4635.	8.05	4420.	0.05	-215.	0.64	-4.86
0.	424.	921.	8.00	5422.	7.80	5104.	-0.20	-318.	-2.59	-6.23
0.	345.	642.	6.60	3857.	6.45	3539.	-0.15	-318.	-2.39	-9.00
-1.	360.	542.	5.70	3539.	5.59	3221.	-0.11	-317.	-1.90	-9.85
0.	345.	499.	5.60	3292.	5.66	3122.	0.06	-171.	1.13	-5.46
1.	337.	590.	6.50	3683.	6.48	3465.	-0.02	-218.	-0.23	-6.29
0.	446.	931.	7.90	5735.	7.85	5368.	-0.05	-367.	-0.59	-6.84
-1.	373.	1014.	7.80	4743.	7.84	4505.	0.04	-238.	0.45	-5.28
-1.	342.	719.	6.50	3731.	6.53	3504.	0.03	-227.	0.39	-6.47
0.	344.	750.	7.10	4010.	6.98	3737.	-0.12	-274.	-1.70	-7.32
-1.	342.	804.	7.00	3816.	6.93	3597.	-0.07	-219.	-1.02	-6.10
0.	333.	994.	7.80	4214.	8.06	4156.	0.26	-59.	3.28	-1.41
1.	358.	557.	6.30	3567.	6.33	3301.	0.03	-265.	0.49	-8.04
0.	367.	584.	6.10	3684.	6.15	3446.	0.05	-238.	0.76	-6.91
0.	379.	411.	5.00	3194.	5.13	3021.	0.13	-172.	2.61	-5.70
0.	410.	992.	8.00	5196.	8.10	5022.	0.10	-174.	1.18	-3.47
1.	341.	1183.	9.20	5269.	9.14	4930.	-0.06	-339.	-0.64	-6.87
0.	366.	888.	7.70	4788.	7.63	4510.	-0.07	-279.	-0.98	-6.18
0.	361.	928.	7.70	4822.	7.80	4618.	0.10	-203.	1.25	-4.40
1.	357.	864.	7.70	4732.	7.85	4558.	0.15	-174.	1.86	-3.81
0.	346.	930.	7.80	4668.	7.80	4460.	-0.00	-209.	-0.01	-4.68
0.	353.	1149.	8.70	5266.	8.70	5033.	0.00	-234.	0.01	-4.64
-1.	436.	980.	7.80	5919.	7.67	5481.	-0.13	-438.	-1.66	-8.00
-1.	351.	1030.	8.00	5066.	7.91	4762.	-0.09	-304.	-1.15	-6.39
-1.	359.	1097.	8.10	5206.	8.18	4998.	0.08	-208.	0.95	-4.15
0.	348.	838.	7.20	4716.	7.39	4423.	0.19	-294.	2.61	-6.64
-1.	357.	927.	7.30	4761.	7.47	4573.	0.17	-188.	2.31	-4.11
-1.	337.	748.	6.70	4153.	6.67	3893.	-0.03	-260.	-0.48	-6.69
0.	439.	1067.	8.60	5874.	8.42	5464.	-0.18	-410.	-2.09	-7.50
-1.	352.	702.	6.50	3704.	6.44	3502.	-0.06	-202.	-0.97	-5.78
1.	385.	772.	7.40	4575.	7.46	4356.	0.06	-219.	0.82	-5.03
0.	381.	723.	6.70	4137.	6.86	4030.	0.16	-108.	2.40	-2.67
0.	344.	486.	5.60	3193.	5.59	2998.	-0.01	-195.	-0.22	-6.50

MK-76 MOD-5 WITH OLD COEFFICIENTS

			ACTUAL DELIVERY A-6E FREEZE DATA		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	361.	641.	6.40	3796.	6.45	3568.	0.05	-228.	0.71	-6.40
1.	344.	961.	8.30	4519.	8.25	4320.	-0.05	-199.	-0.61	-4.61
1.	365.	903.	7.90	4592.	8.03	4383.	0.13	-210.	1.61	-4.78
1.	362.	956.	8.20	4694.	8.25	4482.	0.05	-212.	0.66	-4.72
1.	379.	933.	8.10	4831.	8.18	4645.	0.08	-186.	0.98	-3.99
0.	348.	869.	7.60	4242.	7.53	3961.	-0.07	-281.	-0.90	-7.10
0.	359.	883.	7.70	4504.	7.60	4168.	-0.10	-337.	-1.32	-8.08
0.	354.	884.	7.70	4453.	7.60	4109.	-0.10	-344.	-1.29	-8.36
-1.	344.	892.	7.40	4237.	7.32	3841.	-0.08	-397.	-1.02	-10.33
0.	343.	984.	8.00	4412.	8.03	4170.	0.03	-241.	0.34	-5.79
1.	344.	888.	7.80	4289.	7.93	4104.	0.13	-185.	1.69	-4.52
0.	352.	937.	7.80	4391.	7.83	4184.	0.03	-207.	0.41	-4.94
0.	367.	943.	8.00	4655.	7.87	4324.	-0.13	-332.	-1.71	-7.68
0.	429.	1197.	9.10	6613.	8.93	6232.	-0.17	-381.	-1.86	-6.11
0.	362.	1181.	8.90	6585.	8.83	5289.	-0.07	-1296.	-0.78	-24.51
0.	355.	959.	8.00	4683.	7.93	4410.	-0.07	-272.	-0.91	-6.18
1.	359.	980.	8.20	4862.	8.35	4696.	0.15	-166.	1.82	-3.54
1.	345.	1088.	8.70	4901.	8.77	4726.	0.07	-175.	0.85	-3.71
1.	354.	1056.	8.70	5030.	8.66	4818.	-0.04	-213.	-0.47	-4.42
1.	350.	901.	8.20	5040.	8.00	4358.	-0.20	-682.	-2.50	-15.65
1.	353.	695.	6.90	4041.	7.05	3857.	0.15	-184.	2.07	-4.77
0.	351.	464.	5.50	3308.	5.46	3114.	-0.04	-193.	-0.77	-6.21
0.	351.	498.	5.70	3545.	5.66	3251.	-0.04	-294.	-0.71	-9.05
0.	352.	392.	5.10	3115.	5.01	2908.	-0.09	-207.	-1.88	-7.12
0.	361.	367.	5.00	3149.	4.84	2882.	-0.16	-266.	-3.28	-9.24
0.	343.	453.	5.40	3319.	5.39	3052.	-0.01	-268.	-0.19	-8.77
0.	353.	500.	5.70	3575.	5.67	3258.	-0.03	-317.	-0.49	-9.74
0.	342.	978.	8.00	4290.	8.00	4112.	0.00	-178.	0.02	-4.33
1.	342.	913.	7.90	4325.	8.04	4152.	0.14	-173.	1.75	-4.17
1.	329.	936.	8.00	4299.	8.12	4074.	0.12	-225.	1.50	-5.52
0.	329.	943.	7.80	4206.	7.85	3975.	0.05	-231.	0.60	-5.80
1.	329.	961.	8.10	4314.	8.23	4122.	0.13	-192.	1.56	-4.66
0.	331.	889.	7.60	4105.	7.61	3855.	0.01	-250.	0.18	-6.49
0.	433.	667.	6.60	4572.	6.60	4356.	0.00	-216.	0.06	-4.95
0.	377.	1001.	8.20	4766.	8.12	4925.	-0.08	159.	-1.03	3.23
0.	363.	1064.	8.40	5151.	8.37	4823.	-0.03	-329.	-0.38	-6.81
1.	377.	1060.	8.60	5407.	8.71	5192.	0.11	-215.	1.26	-4.14
1.	334.	1072.	8.70	4607.	8.69	4351.	-0.01	-256.	-0.07	-5.89
1.	360.	1741.	11.00	6003.	11.13	5852.	0.13	-151.	1.13	-2.57
1.	357.	1698.	10.80	5932.	10.98	5798.	0.18	-134.	1.65	-2.31

MK-76 MOD-5 WITH OLD COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
1.	356.	1761.	11.10	5903.	11.18	5787.	0.08	-116.	0.74	-2.00
1.	367.	1713.	10.90	6042.	11.05	5886.	0.15	-156.	1.33	-2.65
0.	365.	1712.	10.70	5980.	10.70	5710.	0.00	-270.	0.04	-4.73
1.	323.	908.	7.90	4428.	7.99	4247.	0.09	-181.	1.16	-4.25
1.	334.	904.	7.90	4500.	7.99	4314.	0.09	-186.	1.13	-4.32
0.	513.	521.	6.10	5053.	5.84	4642.	-0.26	-411.	-4.45	-8.86
0.	338.	479.	5.70	3386.	5.55	3095.	-0.15	-291.	-2.79	-9.41
0.	342.	450.	5.50	3279.	5.37	2995.	-0.13	-284.	-2.40	-9.48
-1.	329.	435.	5.20	2928.	4.98	2683.	-0.22	-244.	-4.34	-9.11
0.	328.	391.	4.90	2793.	5.00	2686.	0.10	-107.	1.91	-3.98
0.	329.	379.	5.00	2794.	4.92	2624.	-0.08	-170.	-1.70	-6.49
0.	330.	289.	4.30	2594.	4.28	2336.	-0.02	-258.	-0.49	-11.06
0.	350.	337.	4.60	2860.	4.63	2590.	0.03	-270.	0.70	-10.43
0.	343.	315.	4.50	2671.	4.47	2507.	-0.03	-164.	-0.58	-6.55
0.	329.	329.	4.70	2680.	4.57	2454.	-0.13	-226.	-2.78	-9.20
1.	338.	462.	5.60	3227.	5.76	3126.	0.16	-101.	2.78	-3.22
0.	426.	864.	7.70	5584.	7.55	5254.	-0.15	-329.	-2.05	-6.27
0.	321.	907.	7.50	4346.	7.69	4192.	0.19	-155.	2.44	-3.69
-1.	361.	1050.	8.10	5103.	7.99	4849.	-0.11	-254.	-1.41	-5.24
-1.	394.	1276.	9.00	6088.	8.86	5742.	-0.14	-346.	-1.58	-6.03
2.	434.	805.	8.00	5451.	8.10	5278.	0.10	-173.	1.29	-3.28
0.	356.	612.	6.30	3801.	6.29	3534.	-0.01	-268.	-0.11	-7.57
1.	344.	794.	7.00	3920.	7.51	4082.	0.51	162.	6.78	3.96
0.	343.	892.	7.60	4043.	7.63	3942.	0.03	-100.	0.42	-2.55
0.	429.	631.	6.60	4627.	6.42	4261.	-0.18	-367.	-2.86	-8.61
0.	403.	1540.	10.10	6613.	10.16	6330.	0.06	-283.	0.62	-4.47
0.	355.	1614.	8.00	4743.	10.37	5772.	2.37	1029.	22.88	17.83
0.	350.	1175.	8.70	5353.	8.80	4997.	0.10	-355.	1.14	-7.11
-1.	420.	1732.	10.30	5839.	10.44	6514.	0.14	676.	1.37	10.37
-1.	354.	1428.	9.30	5218.	9.42	4991.	0.12	-227.	1.26	-4.55
-1.	353.	1474.	9.60	5403.	9.58	5114.	-0.02	-289.	-0.21	-5.65
0.	421.	469.	5.60	3993.	5.50	3721.	-0.10	-272.	-1.74	-7.30
0.	338.	515.	5.70	3421.	5.75	3289.	0.05	-132.	0.95	-4.02
1.	352.	492.	5.80	3647.	5.95	3503.	0.15	-144.	2.60	-4.11
1.	375.	1506.	10.20	5932.	10.37	5747.	0.17	-185.	1.64	-3.22
0.	326.	1356.	9.50	4896.	9.46	4656.	-0.04	-240.	-0.42	-5.15
0.	341.	1384.	9.60	5158.	9.57	4920.	-0.03	-238.	-0.31	-4.83
0.	324.	1392.	9.50	4958.	9.59	4722.	0.09	-236.	0.91	-5.00
0.	324.	1392.	9.50	4958.	9.59	4722.	0.09	-236.	0.91	-5.00
0.	356.	997.	8.00	4685.	8.09	4459.	0.09	-226.	1.10	-5.08

MK-76 MOD-5 WITH OLD COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
-1.	353.	1017.	7.90	4507.	7.85	4237.	-0.05	-270.	-0.58	-6.37
-1.	340.	999.	7.90	4388.	7.78	4065.	-0.12	-323.	-1.48	-7.93
0.	356.	999.	8.00	4562.	8.10	4371.	0.10	-191.	1.20	-4.38
0.	428.	1334.	9.50	6586.	9.45	6263.	-0.05	-323.	-0.53	-5.16
0.	423.	1524.	10.30	6945.	10.12	6604.	-0.18	-341.	-1.75	-5.17
0.	436.	1413.	9.70	6846.	9.74	6588.	0.04	-258.	0.45	-3.91
0.	352.	1174.	8.70	5404.	8.80	5195.	0.10	-209.	1.11	-4.02
2.	334.	1399.	10.10	5721.	10.24	5256.	0.14	-466.	1.41	-8.86
0.	345.	1206.	8.90	5489.	8.92	5253.	0.02	-236.	0.18	-4.49
1.	339.	1151.	9.10	5613.	9.01	5282.	-0.09	-331.	-0.95	-6.27
0.	407.	1022.	8.30	5526.	8.22	5154.	-0.08	-373.	-0.98	-7.23
0.	336.	981.	8.00	4678.	8.01	4444.	0.01	-234.	0.14	-5.26
0.	335.	843.	7.30	4359.	7.41	3631.	0.11	-729.	1.49	-20.07
0.	337.	882.	7.40	4280.	7.59	4223.	0.19	-57.	2.44	-1.35
-5.	334.	544.	4.50	2757.	4.58	2603.	0.08	-154.	1.74	-5.92
-1.	339.	587.	6.00	3572.	5.85	3263.	-0.15	-309.	-2.52	-9.46
0.	344.	602.	6.10	3671.	6.24	3451.	0.14	-220.	2.19	-6.38
0.	330.	564.	5.90	3424.	6.03	3302.	0.13	-122.	2.11	-3.70
0.	335.	605.	6.20	3569.	6.25	3334.	0.05	-236.	0.79	-7.06
0.	340.	553.	5.80	3436.	5.97	3314.	0.17	-122.	2.84	-3.68
0.	451.	767.	7.00	5062.	7.11	4907.	0.11	-155.	1.50	-3.16
0.	428.	855.	7.50	5170.	7.51	4920.	0.01	-250.	0.07	-5.08
0.	335.	918.	7.70	4283.	7.74	4092.	0.04	-191.	0.54	-4.66
0.	331.	919.	7.70	4252.	7.74	4023.	0.04	-229.	0.57	-5.69
0.	334.	923.	7.70	4210.	7.76	4030.	0.06	-180.	0.81	-4.46
0.	339.	951.	8.00	4460.	7.89	4153.	-0.11	-307.	-1.45	-7.40
0.	355.	1142.	8.80	5012.	8.67	4800.	-0.13	-211.	-1.44	-4.40
-1.	358.	966.	7.80	4221.	7.64	4054.	-0.16	-167.	-2.11	-4.13
0.	380.	1000.	9.10	4879.	8.11	4640.	-0.99	-238.	-12.16	-5.14
0.	369.	955.	8.00	4755.	7.92	4497.	-0.08	-258.	-1.04	-5.74
0.	357.	968.	8.10	4773.	7.97	4472.	-0.13	-301.	-1.67	-6.72
1.	352.	1159.	8.90	4854.	9.07	4533.	0.17	-320.	1.82	-7.06
0.	356.	929.	8.20	4770.	7.80	4267.	-0.40	-504.	-5.13	-11.80
1.	349.	994.	8.60	4676.	8.40	4514.	-0.20	-161.	-2.43	-3.57
0.	340.	1027.	8.30	4781.	8.20	4386.	-0.10	-395.	-1.16	-9.00
-1.	455.	827.	7.00	5103.	6.99	4892.	-0.01	-211.	-0.17	-4.31
0.	353.	949.	7.80	6582.	7.88	4390.	0.08	-2192.	1.07	-49.93
0.	355.	1022.	8.20	7884.	8.19	4582.	-0.01	-3302.	-0.10	-72.07
-1.	351.	820.	7.00	6176.	7.00	3902.	-0.00	-2273.	-0.02	-58.25
-1.	361.	926.	7.90	6737.	7.47	4244.	-0.43	-2493.	-5.81	-58.73

MK-76 MOD-5 WITH OLD COEFFICIENTS

			ACTUAL DELIVERY A-6E FREEZE DATA		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
-1.	354.	858.	7.20	6302.	7.17	3990.	-0.03	-2312.	-0.42	-57.95
0.	362.	875.	7.50	6471.	7.57	4261.	0.07	-2210.	0.87	-51.86
1.	432.	1021.	8.50	5770.	8.63	5574.	0.13	-196.	1.51	-3.52
0.	332.	852.	7.50	4021.	7.45	3793.	-0.05	-227.	-0.68	-5.99
0.	427.	735.	6.90	4723.	6.94	4511.	0.04	-212.	0.59	-4.71
-2.	340.	723.	6.30	3578.	6.26	3338.	-0.04	-240.	-0.71	-7.18
0.	400.	1041.	8.40	5696.	8.29	5372.	-0.11	-324.	-1.27	-6.03
1.	355.	946.	8.00	5520.	8.20	4910.	0.20	-609.	2.46	-12.41
1.	354.	1118.	9.10	4894.	8.91	4428.	-0.19	-466.	-2.16	-10.52
1.	342.	1002.	8.40	5153.	8.42	4275.	0.02	-878.	0.23	-20.54
0.	340.	990.	8.10	4942.	8.05	4072.	-0.05	-870.	-0.61	-21.35
0.	250.	854.	7.60	4551.	7.42	3122.	-0.18	-1428.	-2.39	-45.74
1.	421.	988.	8.30	5543.	8.48	5376.	0.18	-167.	2.07	-3.10
0.	359.	995.	8.20	4726.	8.08	4461.	-0.12	-265.	-1.46	-5.95
1.	341.	1108.	8.80	4855.	8.85	4644.	0.05	-211.	0.55	-4.55
0.	352.	954.	7.90	4572.	7.91	4291.	0.01	-281.	0.06	-6.55
0.	336.	962.	7.90	4324.	7.93	4130.	0.03	-194.	0.39	-4.71
0.	340.	930.	7.80	4321.	7.80	4091.	-0.00	-230.	-0.05	-5.62
0.	340.	951.	7.90	4306.	7.89	4146.	-0.01	-160.	-0.17	-3.87
0.	350.	961.	8.00	4488.	7.93	4259.	-0.07	-230.	-0.83	-5.39
-1.	347.	947.	7.60	4287.	7.56	4042.	-0.04	-245.	-0.50	-6.05
0.	370.	1120.	8.50	5986.	8.60	4789.	0.10	-1198.	1.13	-25.01
1.	342.	1091.	8.70	6702.	8.78	4492.	0.08	-2210.	0.94	-49.21
0.	338.	1069.	8.40	6523.	8.37	4273.	-0.03	-2250.	-0.30	-52.64
-1.	335.	1101.	8.20	6416.	8.20	4158.	0.00	-2258.	0.01	-54.30
1.	337.	1049.	8.50	6546.	8.61	4360.	0.11	-2186.	1.23	-50.13
0.	345.	1159.	8.70	6772.	8.74	4516.	0.04	-2256.	0.41	-49.95
0.	341.	1109.	8.60	6689.	8.54	4369.	-0.06	-2319.	-0.74	-53.08
0.	345.	1204.	8.80	6814.	8.91	4562.	0.11	-2252.	1.22	-49.37
1.	334.	1199.	9.00	6734.	9.19	4550.	0.19	-2184.	2.09	-48.01
0.	341.	1091.	8.30	6560.	8.47	4378.	0.17	-2182.	1.95	-49.85
-1.	316.	996.	7.80	6028.	7.78	3766.	-0.02	-2262.	-0.25	-60.05
0.	342.	918.	7.70	7313.	7.75	4024.	0.05	-3288.	0.59	-81.70
-1.	350.	1200.	8.70	6866.	8.58	4559.	-0.12	-2307.	-1.36	-50.61
0.	342.	944.	7.70	6239.	7.86	4103.	0.16	-2136.	2.00	-52.08
-1.	334.	897.	7.40	6003.	7.35	3757.	-0.05	-2247.	-0.67	-59.80
-1.	346.	874.	7.30	6057.	7.24	3832.	-0.06	-2225.	-0.77	-58.05
-1.	345.	933.	7.60	6281.	7.50	3942.	-0.10	-2339.	-1.29	-59.33
-1.	343.	910.	7.50	6153.	7.40	3878.	-0.10	-2275.	-1.29	-58.67
0.	345.	951.	7.80	6359.	7.89	4131.	0.09	-2228.	1.13	-53.93

MK-76 MOD-5 WITH OLD COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	ACTUAL DELIVERY A-6E FREEZE DATA DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
-1.	342.	1022.	8.00	6409.	7.88	4101.	-0.12	-2308.	-1.53	-56.28
2.	438.	653.	7.20	5078.	7.37	5043.	0.17	-35.	2.37	-0.70
1.	315.	814.	7.80	4120.	7.56	3758.	-0.24	-362.	-3.14	-9.64
1.	321.	749.	7.20	3970.	7.27	3715.	0.07	-255.	0.92	-6.88
0.	311.	704.	6.70	3622.	6.75	3396.	0.05	-226.	0.69	-6.65
1.	319.	653.	6.70	3622.	6.79	3454.	0.09	-167.	1.34	-4.84
0.	341.	905.	7.60	4724.	7.69	4473.	0.09	-251.	1.15	-5.62
0.	335.	863.	7.40	4478.	7.50	4295.	0.10	-183.	1.33	-4.25
1.	340.	921.	8.00	4701.	8.07	4481.	0.07	-220.	0.90	-4.91
1.	355.	918.	8.00	4732.	8.08	4498.	0.08	-234.	1.00	-5.20
1.	352.	933.	8.00	4627.	8.14	4466.	0.14	-161.	1.74	-3.60
1.	351.	1075.	8.70	4934.	8.73	4720.	0.03	-214.	0.36	-4.54
1.	328.	1087.	8.80	4880.	8.75	4594.	-0.05	-286.	-0.62	-6.22
0.	341.	918.	7.30	4518.	7.74	4261.	0.44	-256.	5.74	-6.01
-2.	335.	573.	6.20	3959.	5.50	3232.	-0.70	-727.	-12.82	-22.50
0.	348.	543.	5.90	2757.	5.92	3572.	0.02	815.	0.27	22.81
0.	336.	627.	6.40	6590.	6.37	3730.	-0.03	-2860.	-0.54	-76.69
0.	357.	543.	6.10	6076.	5.92	3729.	-0.18	-2346.	-3.07	-62.92
1.	337.	980.	8.30	4012.	8.32	4774.	0.02	762.	0.24	15.96
4.	355.	1102.	8.90	6568.	9.90	6023.	1.00	-545.	10.06	-9.05
1.	290.	604.	6.40	3305.	6.50	3114.	0.10	-191.	1.55	-6.13
1.	351.	798.	7.00	3920.	7.54	3938.	0.54	18.	7.13	0.46
1.	361.	781.	6.30	3698.	7.47	4069.	1.17	371.	15.68	9.11
1.	347.	776.	7.20	4067.	7.43	3896.	0.23	-171.	3.08	-4.39
0.	342.	774.	6.00	3393.	7.09	3710.	1.09	317.	15.43	8.55
1.	343.	742.	7.70	4307.	7.26	3783.	-0.44	-523.	-6.03	-13.83
1.	352.	766.	8.00	4526.	7.39	3906.	-0.61	-620.	-8.28	-15.88
2.	440.	780.	8.30	5646.	8.00	5191.	-0.30	-455.	-3.72	-8.77
0.	365.	794.	6.70	3829.	7.20	3945.	0.50	117.	6.91	2.95
0.	346.	812.	7.00	3855.	7.27	3767.	0.27	-89.	3.76	-2.35
1.	365.	804.	7.70	4428.	7.58	4151.	-0.12	-276.	-1.53	-6.65
0.	398.	790.	6.00	3829.	7.19	4318.	1.19	488.	16.58	11.31
0.	441.	820.	7.20	5246.	7.35	5075.	0.15	-171.	2.06	-3.37
-1.	385.	891.	7.30	4767.	7.30	4495.	0.00	-272.	0.05	-6.06
-1.	350.	606.	6.00	3701.	5.95	3472.	-0.05	-229.	-0.88	-6.59
0.	459.	1094.	8.80	6357.	8.55	5931.	-0.25	-425.	-2.96	-7.17
0.	366.	911.	7.80	4784.	7.73	4462.	-0.07	-322.	-0.96	-7.22
1.	356.	965.	8.30	5120.	8.28	4760.	-0.02	-360.	-0.19	-7.57
0.	352.	868.	7.60	4426.	7.53	4160.	-0.07	-266.	-0.93	-6.39
0.	367.	921.	7.70	4670.	7.77	4417.	0.07	-253.	0.90	-5.72

MK-76 MOD-5 WITH OLD COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	331.	1065.	8.40	4454.	8.35	4218.	-0.05	-236.	-0.54	-5.60
1.	330.	1059.	8.60	4579.	8.64	4396.	0.04	-183.	0.42	-4.16
0.	318.	976.	7.90	4178.	7.98	3934.	0.08	-244.	1.02	-6.19
0.	340.	972.	7.90	4660.	7.98	3889.	0.08	-771.	0.95	-19.82
1.	355.	1178.	9.00	5557.	9.14	5359.	0.14	-198.	1.57	-3.69
0.	349.	938.	7.80	4360.	7.84	4196.	0.04	-164.	0.45	-3.92
0.	347.	970.	8.00	4456.	7.97	4262.	-0.03	-194.	-0.37	-4.55
1.	344.	1020.	8.40	4619.	8.50	4459.	0.10	-160.	1.14	-3.59
0.	315.	671.	6.60	3567.	6.58	3297.	-0.02	-271.	-0.25	-8.22
0.	317.	773.	7.20	3833.	7.08	3556.	-0.12	-277.	-1.69	-7.79
0.	321.	867.	7.40	4253.	7.51	4024.	0.11	-228.	1.49	-5.68
0.	321.	899.	7.60	4307.	7.65	4100.	0.05	-207.	0.69	-5.05
1.	320.	877.	7.80	4363.	7.85	4164.	0.05	-199.	0.67	-4.77
0.	322.	918.	7.80	4446.	7.74	3675.	-0.06	-772.	-0.83	-21.00
0.	327.	881.	7.60	4331.	7.58	4075.	-0.02	-256.	-0.31	-6.28
0.	303.	1026.	8.30	4464.	8.18	4199.	-0.12	-265.	-1.45	-6.30
-1.	388.	779.	6.70	4412.	6.79	4232.	0.09	-180.	1.34	-4.25
-2.	320.	768.	6.60	3681.	6.50	3372.	-0.10	-309.	-1.59	-9.15
-1.	301.	544.	5.60	2940.	5.64	2759.	0.04	-181.	0.71	-6.57
-1.	309.	738.	6.60	3472.	6.63	3258.	0.03	-214.	0.52	-6.58
-1.	321.	864.	7.00	3813.	7.21	3659.	0.21	-155.	2.92	-4.23
0.	324.	804.	7.20	4316.	7.23	4025.	0.03	-290.	0.38	-7.21
0.	327.	915.	7.70	4488.	7.73	4267.	0.03	-220.	0.33	-5.16
0.	330.	767.	7.00	4221.	7.06	4002.	0.06	-218.	0.81	-5.46
0.	329.	784.	7.10	4238.	7.14	4031.	0.04	-208.	0.51	-5.15
0.	340.	815.	7.30	4537.	7.28	4229.	-0.02	-309.	-0.21	-7.30
0.	331.	793.	7.20	4358.	7.18	4053.	-0.02	-306.	-0.29	-7.54
0.	328.	766.	6.90	4180.	7.05	3989.	0.15	-191.	2.15	-4.79
0.	330.	1113.	8.50	4998.	8.55	4725.	0.05	-273.	0.54	-5.77
0.	328.	794.	7.20	4348.	7.18	4090.	-0.02	-259.	-0.24	-6.32
0.	326.	1055.	8.20	4672.	8.31	4511.	0.11	-162.	1.34	-3.59
0.	322.	1035.	8.20	4759.	8.23	4494.	0.03	-265.	0.34	-5.90
0.	326.	978.	7.90	4679.	7.99	4435.	0.09	-244.	1.17	-5.49
1.	474.	986.	8.50	6637.	8.55	6483.	0.05	-155.	0.54	-2.38
0.	344.	744.	6.80	4184.	6.95	4020.	0.15	-164.	2.20	-4.08
1.	354.	1490.	10.20	6142.	10.28	5901.	0.08	-241.	0.77	-4.09
0.	351.	1260.	9.00	5538.	9.12	5270.	0.12	-268.	1.36	-5.09
0.	357.	1411.	9.50	5852.	9.68	5619.	0.18	-233.	1.84	-4.15
0.	353.	1419.	9.80	5922.	9.70	5530.	-0.10	-392.	-0.99	-7.09
0.	459.	985.	8.20	6769.	8.09	5990.	-0.11	-778.	-1.31	-12.99

MK-76 MOD-5 WITH OLD COEFFICIENTS

			ACTUAL DELIVERY A-6E FREEZE DATA		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	332.	1049.	8.30	4919.	8.29	4450.	-0.01	-470.	-0.11	-10.55
0.	351.	1109.	8.50	5295.	8.54	5021.	0.04	-275.	0.50	-5.47
0.	354.	907.	7.70	4244.	7.70	3972.	0.00	-272.	0.04	-6.84
0.	338.	962.	7.80	4088.	7.93	3916.	0.13	-172.	1.67	-4.40
0.	345.	987.	8.10	4288.	8.04	4011.	-0.06	-277.	-0.73	-6.91
0.	343.	1035.	8.50	4390.	8.24	4075.	-0.26	-315.	-3.16	-7.72
0.	347.	965.	8.00	4365.	7.95	4019.	-0.05	-345.	-0.64	-8.59
2.	327.	1258.	9.50	4694.	9.71	4565.	0.21	-130.	2.21	-2.84
0.	342.	1030.	8.10	4309.	8.22	4103.	0.12	-206.	1.44	-5.01
0.	337.	964.	8.00	4180.	7.94	3903.	-0.06	-277.	-0.75	-7.09
0.	359.	1036.	8.30	4574.	8.25	4307.	-0.05	-267.	-0.58	-6.19
0.	350.	911.	7.70	4161.	7.72	3944.	0.02	-217.	0.24	-5.51
0.	353.	1042.	8.40	4542.	8.27	4223.	-0.13	-319.	-1.53	-7.54
0.	468.	966.	8.20	5993.	8.02	5561.	-0.18	-432.	-2.27	-7.76
-3.	440.	853.	6.20	4500.	6.39	4333.	0.19	-166.	3.00	-3.84
-2.	336.	820.	6.80	3915.	6.72	3692.	-0.08	-223.	-1.24	-6.05
1.	353.	997.	8.30	4849.	8.41	4655.	0.11	-194.	1.36	-4.16
0.	439.	907.	7.90	5617.	7.74	5268.	-0.16	-349.	-2.01	-6.63
0.	420.	927.	8.00	5472.	7.82	5196.	-0.18	-276.	-2.28	-5.31
0.	356.	821.	7.40	4363.	7.32	4145.	-0.08	-218.	-1.11	-5.27
2.	386.	1531.	10.70	6399.	10.84	6255.	0.14	-144.	1.30	-2.30
1.	377.	1375.	9.90	5779.	9.91	5610.	0.01	-168.	0.12	-3.00
1.	379.	1396.	9.80	6082.	9.99	5866.	0.19	-216.	1.90	-3.68
0.	373.	1274.	9.20	5546.	9.19	5232.	-0.01	-313.	-0.10	-5.99
0.	366.	1446.	9.90	5524.	9.81	5244.	-0.09	-280.	-0.94	-5.34
0.	343.	913.	7.80	7847.	7.72	4197.	-0.08	-3650.	-0.98	-86.97
1.	380.	1050.	8.70	5307.	8.67	5172.	-0.03	-135.	-0.31	-2.62
1.	346.	985.	8.30	4606.	8.35	4527.	0.05	-79.	0.65	-1.74
1.	339.	929.	8.10	4413.	8.11	4329.	0.01	-84.	0.07	-1.95
1.	342.	902.	7.90	4327.	7.99	4287.	0.09	-40.	1.16	-0.93
1.	335.	846.	7.80	4226.	7.73	4109.	-0.07	-117.	-0.84	-2.85
0.	410.	942.	8.00	5175.	7.88	4920.	-0.12	-255.	-1.49	-5.19
0.	355.	1032.	8.10	4647.	8.23	4460.	0.13	-187.	1.62	-4.18
3.	41.	913.	8.10	4478.	7.70	493.	-0.40	-3985.	-5.16	-808.19
0.	342.	1000.	8.20	4541.	8.09	4294.	-0.11	-247.	-1.31	-5.76
-1.	353.	1091.	8.70	4828.	8.16	4355.	-0.54	-473.	-6.67	-10.86
2.	324.	1152.	9.20	4783.	9.30	4615.	0.10	-168.	1.12	-3.64
0.	412.	862.	7.60	4925.	7.53	4764.	-0.07	-162.	-0.93	-3.39
0.	426.	942.	8.10	5480.	7.89	5135.	-0.21	-345.	-2.66	-6.71
0.	403.	807.	7.50	4813.	7.27	4562.	-0.23	-251.	-3.11	-5.51

MK-76 MOD-5 WITH OLD COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	ACTUAL DELIVERY A-6E FREEZE DATA DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
1.	418.	815.	7.80	5561.	7.71	5301.	-0.09	-260.	-1.21	-4.90
1.	420.	998.	8.40	5967.	8.52	5771.	0.12	-196.	1.36	-3.40
0.	454.	857.	7.60	4814.	7.53	5520.	-0.07	705.	-0.95	12.78
1.	356.	591.	8.10	5176.	6.51	4030.	-1.59	-1147.	-24.35	-28.46
1.	338.	958.	8.10	4887.	8.23	4677.	0.13	-210.	1.56	-4.48
0.	457.	1135.	8.60	6502.	8.71	6283.	0.11	-218.	1.26	-3.47
1.	425.	1031.	8.50	5616.	8.66	5473.	0.16	-143.	1.86	-2.61
1.	372.	835.	7.60	7393.	7.74	4456.	0.14	-2937.	1.75	-65.92
1.	358.	1083.	8.60	6733.	8.77	4798.	0.17	-1935.	1.98	-40.33
0.	376.	1071.	8.60	6644.	8.40	4843.	-0.20	-1801.	-2.33	-37.19
0.	347.	1013.	8.10	5162.	8.15	4866.	0.05	-295.	0.62	-6.06
0.	345.	1045.	8.30	5369.	8.28	5048.	-0.02	-321.	-0.23	-6.36
0.	341.	981.	8.00	5005.	8.01	4723.	0.01	-282.	0.17	-5.98
0.	340.	970.	7.80	4721.	7.97	4514.	0.17	-207.	2.10	-4.59
-1.	362.	729.	6.40	4116.	6.56	3907.	0.16	-209.	2.51	-5.34
0.	349.	1033.	8.30	4636.	8.23	4334.	-0.07	-303.	-0.80	-6.98
0.	360.	1050.	8.40	4458.	8.31	4138.	-0.09	-320.	-1.09	-7.73
0.	336.	1020.	8.20	4547.	8.17	4211.	-0.03	-336.	-0.32	-7.97
0.	326.	835.	7.30	4269.	7.37	3819.	0.07	-450.	0.95	-11.79
1.	328.	896.	7.80	4726.	7.95	4390.	0.15	-336.	1.85	-7.65
0.	321.	739.	7.00	3941.	6.92	3630.	-0.08	-312.	-1.16	-8.59
0.	366.	942.	7.90	5926.	7.86	4597.	-0.04	-1328.	-0.50	-28.89
-1.	409.	536.	5.70	3833.	5.53	3563.	-0.17	-270.	-3.05	-7.58
0.	348.	820.	7.30	4231.	7.31	3993.	0.01	-238.	0.15	-5.96
0.	347.	999.	8.10	4603.	8.09	4346.	-0.01	-257.	-0.09	-5.90
0.	343.	718.	6.90	3935.	6.83	3715.	-0.07	-220.	-1.08	-5.92
2.	412.	1348.	10.40	3755.	10.26	6482.	-0.14	2727.	-1.33	42.07
0.	349.	1052.	8.30	4919.	8.31	4624.	0.01	-295.	0.14	-6.38
0.	457.	1737.	8.10	6170.	10.87	7741.	2.77	1571.	25.48	20.29
0.	339.	1003.	7.90	4970.	8.10	4738.	0.20	-231.	2.53	-4.88
0.	339.	457.	5.40	3420.	5.41	3189.	0.01	-231.	0.24	-7.25
0.	330.	558.	6.00	3718.	5.99	3449.	-0.01	-269.	-0.10	-7.81
0.	344.	600.	6.20	3377.	6.23	3637.	0.03	259.	0.41	7.14
0.	438.	1036.	8.40	5747.	8.30	5396.	-0.10	-351.	-1.26	-6.51
0.	349.	1109.	8.60	4773.	8.54	4452.	-0.06	-321.	-0.69	-7.21
-1.	356.	956.	7.70	4448.	7.60	4142.	-0.10	-306.	-1.35	-7.40
0.	342.	957.	8.00	4571.	7.91	4177.	-0.09	-394.	-1.10	-9.44
1.	342.	1226.	9.40	5187.	9.31	4861.	-0.09	-326.	-1.00	-6.70
0.	456.	901.	7.80	5598.	7.73	5257.	-0.07	-341.	-0.95	-6.49
1.	439.	1193.	7.40	5205.	9.33	6206.	1.93	1001.	20.70	16.12

MK-76 MOD-5 WITH OLD COEFFICIENTS

			ACTUAL DELIVERY A-6E FREEZE DATA		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
0.	347.	868.	7.50	6300.	7.53	4018.	0.03	-2283.	0.37	-56.82
0.	332.	867.	7.60	4079.	7.52	3869.	-0.08	-209.	-1.11	-5.41
0.	333.	902.	7.70	6225.	7.67	3958.	-0.03	-2267.	-0.37	-57.27
0.	463.	898.	7.60	5720.	7.72	5497.	0.12	-223.	1.52	-4.06
0.	371.	846.	7.40	4664.	7.44	4418.	0.04	-246.	0.53	-5.57
0.	356.	756.	7.00	4213.	7.01	3996.	0.01	-217.	0.21	-5.44
-1.	345.	731.	6.90	3973.	6.58	3609.	-0.32	-364.	-4.82	-10.08
1.	347.	718.	7.20	4260.	7.15	3892.	-0.05	-368.	-0.68	-9.47
1.	333.	852.	7.20	4429.	7.76	4042.	0.56	-387.	7.21	-9.57
0.	419.	945.	7.70	5408.	7.90	5325.	0.20	-83.	2.53	-1.56
0.	421.	954.	8.00	5711.	7.94	5383.	-0.06	-328.	-0.76	-6.10
0.	425.	858.	7.50	5463.	7.52	5230.	0.02	-233.	0.24	-4.45
0.	455.	825.	7.40	5539.	7.38	5276.	-0.02	-263.	-0.25	-4.99
1.	465.	978.	8.60	6487.	8.50	6161.	-0.10	-326.	-1.19	-5.29
0.	428.	933.	7.90	5603.	7.85	5357.	-0.05	-246.	-0.61	-4.58
0.	425.	931.	7.90	5684.	7.84	5301.	-0.06	-383.	-0.74	-7.23
0.	426.	926.	8.00	5756.	7.82	5367.	-0.18	-389.	-2.29	-7.25
0.	419.	945.	8.10	5702.	7.90	5369.	-0.20	-333.	-2.54	-6.20
1.	309.	941.	8.10	4196.	8.12	3883.	0.02	-313.	0.19	-8.06
-1.	319.	979.	7.70	4259.	7.71	4010.	0.01	-249.	0.11	-6.22
0.	323.	1064.	8.20	5427.	8.35	4040.	0.15	-1386.	1.76	-34.31
0.	336.	891.	7.50	4125.	7.62	3975.	0.12	-150.	1.63	-3.78
0.	326.	847.	7.50	3991.	7.42	3689.	-0.08	-303.	-1.02	-8.20
-1.	323.	906.	7.50	4122.	7.39	3849.	-0.11	-273.	-1.42	-7.09
0.	316.	880.	7.50	4015.	7.57	3806.	0.07	-209.	0.89	-5.49
0.	305.	903.	7.50	3907.	7.66	3649.	0.16	-258.	2.13	-7.06
0.	346.	1048.	8.30	4643.	8.29	4341.	-0.01	-302.	-0.07	-6.95
0.	365.	1030.	8.40	4842.	8.23	4553.	-0.17	-289.	-2.06	-6.35
0.	396.	1014.	8.00	4988.	8.18	4884.	0.18	-104.	2.21	-2.13

APPENDIX E

This appendix compares the experimental data with the ballistics algorithm using the new coefficients for drag, mach, and weapon type.

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	421.	1389.	9.80	6411.	9.53	6083.	-0.27	-328.	-2.86	-5.40
1.	378.	1413.	9.90	5842.	9.94	5694.	0.04	-147.	0.40	-2.58
0.	377.	1452.	9.80	5853.	9.73	5640.	-0.07	-212.	-0.74	-3.76
1.	376.	1615.	10.60	6193.	10.63	6036.	0.03	-157.	0.29	-2.61
0.	363.	1388.	9.70	5580.	9.49	5271.	-0.21	-309.	-2.17	-5.86
-1.	382.	1276.	9.00	5412.	8.75	5081.	-0.25	-330.	-2.81	-6.50
2.	374.	797.	7.80	4673.	7.81	4422.	0.01	-250.	0.17	-5.65
-1.	377.	1356.	9.00	5423.	9.05	5225.	0.05	-198.	0.54	-3.79
1.	374.	1466.	10.40	6065.	10.12	5776.	-0.28	-289.	-2.76	-5.00
0.	451.	922.	8.00	5665.	7.69	5246.	-0.31	-419.	-4.07	-7.99
1.	398.	970.	8.50	5668.	8.25	5293.	-0.25	-374.	-3.02	-7.07
0.	415.	407.	5.30	3607.	4.96	3196.	-0.34	-411.	-6.79	-12.87
0.	362.	501.	5.70	3494.	5.56	3163.	-0.14	-332.	-2.60	-10.49
2.	340.	610.	6.80	3741.	6.82	3548.	0.02	-192.	0.24	-5.42
1.	359.	500.	5.60	3333.	5.89	3304.	0.29	-29.	4.86	-0.87
0.	359.	516.	5.70	3350.	5.64	3144.	-0.06	-206.	-1.00	-6.56
0.	421.	1051.	8.20	5836.	8.23	5592.	0.03	-244.	0.34	-4.36
0.	340.	793.	7.20	4338.	7.08	4038.	-0.12	-300.	-1.71	-7.44
0.	331.	961.	7.80	4509.	7.83	4335.	0.03	-174.	0.32	-4.00
0.	335.	1118.	8.60	5007.	8.47	4710.	-0.13	-297.	-1.54	-6.30
0.	384.	975.	8.00	5372.	7.90	5021.	-0.10	-351.	-1.28	-7.00
0.	355.	1057.	8.40	5102.	8.23	4826.	-0.17	-275.	-2.05	-5.70
0.	342.	957.	7.80	4591.	7.81	4467.	0.01	-124.	0.14	-2.79
1.	325.	924.	8.00	4731.	7.97	4514.	-0.03	-217.	-0.42	-4.81
0.	423.	1042.	8.50	5949.	8.19	5539.	-0.31	-411.	-3.77	-7.42
0.	405.	1100.	8.60	5746.	8.42	5455.	-0.18	-290.	-2.11	-5.32
0.	401.	1056.	8.40	5469.	8.24	5106.	-0.16	-363.	-1.91	-7.11
1.	372.	510.	6.00	3584.	5.96	3296.	-0.04	-288.	-0.73	-8.74
1.	370.	944.	8.20	4563.	8.11	4333.	-0.09	-230.	-1.16	-5.32
0.	328.	911.	7.70	4059.	7.61	3825.	-0.09	-234.	-1.19	-6.13
1.	321.	824.	7.50	3812.	7.52	3660.	0.02	-152.	0.23	-4.15
0.	326.	929.	7.90	4065.	7.69	3802.	-0.21	-263.	-2.77	-6.91
0.	331.	891.	7.60	3930.	7.52	3759.	-0.08	-171.	-1.03	-4.55
0.	354.	817.	7.20	4171.	7.19	3982.	-0.01	-189.	-0.10	-4.74
-1.	351.	684.	6.40	3829.	6.24	3474.	-0.16	-355.	-2.59	-10.23
-1.	439.	779.	6.90	5253.	6.64	4844.	-0.26	-409.	-3.91	-8.43
0.	336.	747.	7.00	4194.	6.86	3977.	-0.14	-217.	-2.04	-5.46
0.	329.	744.	6.90	4134.	6.84	3922.	-0.06	-212.	-0.81	-5.40
0.	427.	908.	7.90	5779.	7.62	5356.	-0.28	-423.	-3.69	-7.90
0.	387.	917.	7.90	5251.	7.65	4884.	-0.25	-366.	-3.27	-7.50

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
1.	393.	909.	8.00	5404.	7.98	5139.	-0.02	-265.	-0.24	-5.16
0.	353.	1124.	8.50	5292.	8.50	5067.	-0.00	-225.	-0.00	-4.44
0.	348.	990.	8.00	4492.	7.95	4263.	-0.05	-229.	-0.60	-5.37
1.	347.	990.	8.20	4564.	8.27	4437.	0.07	-127.	0.90	-2.85
1.	349.	959.	8.20	4611.	8.15	4412.	-0.05	-199.	-0.67	-4.51
2.	342.	962.	8.60	4662.	8.48	4431.	-0.12	-231.	-1.43	-5.21
0.	357.	879.	7.60	4464.	7.47	4129.	-0.13	-336.	-1.68	-8.13
0.	354.	912.	7.70	4345.	7.62	4144.	-0.08	-201.	-1.06	-4.85
0.	359.	988.	8.20	4697.	7.95	4373.	-0.25	-324.	-3.19	-7.41
1.	349.	880.	7.80	4372.	7.80	4196.	0.00	-176.	0.02	-4.20
0.	340.	927.	7.80	4199.	7.68	3989.	-0.12	-210.	-1.54	-5.27
1.	348.	934.	8.10	4596.	8.04	4326.	-0.06	-270.	-0.78	-6.25
0.	354.	851.	7.30	4184.	7.35	4032.	0.05	-152.	0.65	-3.77
0.	412.	1023.	8.20	3660.	8.11	5381.	-0.09	1721.	-1.12	31.98
0.	321.	1096.	8.60	4745.	8.38	4479.	-0.22	-266.	-2.65	-5.93
0.	322.	990.	8.00	4472.	7.95	4229.	-0.05	-243.	-0.69	-5.74
0.	325.	996.	8.00	4501.	7.97	3724.	-0.03	-777.	-0.36	-20.87
1.	324.	1013.	8.30	4620.	8.34	4476.	0.04	-145.	0.51	-3.23
0.	332.	967.	8.00	4518.	7.85	4296.	-0.15	-221.	-1.90	-5.15
0.	356.	926.	7.80	4373.	7.68	4474.	-0.12	101.	-1.55	2.27
1.	314.	989.	8.30	4523.	8.23	4292.	-0.07	-231.	-0.85	-5.38
0.	325.	1002.	8.20	4520.	8.00	4292.	-0.20	-228.	-2.55	-5.32
0.	339.	961.	8.00	4601.	7.83	4344.	-0.17	-257.	-2.21	-5.92
0.	323.	967.	8.00	4426.	7.85	4168.	-0.15	-258.	-1.93	-6.18
1.	324.	1045.	8.50	4695.	8.47	3944.	-0.03	-751.	-0.31	-19.03
1.	418.	1264.	9.50	6203.	9.45	5929.	-0.05	-274.	-0.51	-4.62
-1.	341.	1109.	8.30	4680.	8.13	4332.	-0.17	-349.	-2.08	-8.05
-1.	403.	1128.	8.30	5332.	8.17	5016.	-0.13	-316.	-1.53	-6.30
0.	388.	1152.	8.70	5388.	8.62	5103.	-0.08	-286.	-0.89	-5.60
0.	371.	1065.	8.20	4885.	8.27	4722.	0.07	-164.	0.83	-3.47
-1.	368.	1057.	7.90	4518.	7.91	4221.	0.01	-297.	0.09	-7.04
1.	429.	1004.	8.40	6037.	8.43	5794.	0.03	-243.	0.38	-4.19
0.	320.	983.	8.10	4637.	7.92	4331.	-0.18	-306.	-2.33	-7.07
0.	328.	1056.	8.30	4785.	8.22	4565.	-0.08	-220.	-0.98	-4.82
0.	321.	964.	8.00	4549.	7.84	4228.	-0.16	-321.	-2.10	-7.59
0.	315.	930.	7.60	4342.	7.69	4133.	0.09	-209.	1.15	-5.06
0.	318.	1021.	8.20	4711.	8.07	4413.	-0.13	-298.	-1.58	-6.75
0.	308.	1003.	8.20	4459.	8.00	4203.	-0.20	-255.	-2.56	-6.07
0.	311.	937.	7.80	4422.	7.72	4135.	-0.08	-287.	-1.06	-6.93
0.	311.	944.	7.80	4369.	7.75	4108.	-0.05	-261.	-0.67	-6.35

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	330.	926.	7.70	4526.	7.67	4274.	-0.03	-253.	-0.33	-5.91
0.	324.	938.	7.70	4462.	7.73	4243.	0.03	-220.	0.33	-5.18
0.	312.	1142.	8.50	4652.	8.56	4489.	0.06	-162.	0.65	-3.62
0.	304.	1014.	8.10	4395.	8.04	4199.	-0.06	-196.	-0.75	-4.66
0.	261.	956.	7.80	3812.	7.79	3577.	-0.01	-235.	-0.18	-6.57
1.	312.	1068.	8.50	4700.	8.55	4532.	0.05	-169.	0.61	-3.72
0.	326.	1003.	8.00	4633.	8.00	4424.	0.00	-209.	0.01	-4.72
0.	325.	992.	8.00	4635.	7.95	4413.	-0.05	-222.	-0.57	-5.04
0.	424.	921.	8.00	5422.	7.68	5071.	-0.32	-352.	-4.23	-6.94
0.	345.	642.	6.60	3857.	6.34	3505.	-0.26	-352.	-4.18	-10.04
-1.	360.	542.	5.70	3539.	5.47	3170.	-0.23	-368.	-4.14	-11.62
0.	345.	499.	5.60	3292.	5.54	3075.	-0.06	-217.	-1.00	-7.06
1.	337.	590.	6.50	3683.	6.37	3433.	-0.13	-250.	-1.97	-7.30
0.	446.	931.	7.90	5735.	7.73	5325.	-0.17	-410.	-2.26	-7.71
-1.	373.	1014.	7.80	4743.	7.73	4487.	-0.07	-255.	-0.95	-5.69
-1.	342.	719.	6.50	3731.	6.42	3475.	-0.08	-257.	-1.26	-7.39
0.	344.	750.	7.10	4010.	6.88	3712.	-0.22	-298.	-3.27	-8.04
-1.	342.	804.	7.00	3816.	6.82	3573.	-0.18	-243.	-2.57	-6.81
0.	333.	994.	7.80	4214.	7.96	4147.	0.16	-67.	2.07	-1.62
1.	358.	557.	6.30	3567.	6.21	3259.	-0.09	-308.	-1.41	-9.45
0.	367.	584.	6.10	3684.	6.03	3400.	-0.07	-284.	-1.22	-8.35
0.	379.	411.	5.00	3194.	4.99	2951.	-0.01	-243.	-0.10	-8.24
0.	410.	992.	8.00	5196.	7.98	4998.	-0.02	-198.	-0.27	-3.96
1.	341.	1183.	9.20	5269.	9.04	4935.	-0.16	-334.	-1.76	-6.77
0.	366.	888.	7.70	4788.	7.52	4489.	-0.18	-299.	-2.44	-6.67
0.	361.	928.	7.70	4822.	7.69	4601.	-0.01	-221.	-0.12	-4.79
1.	357.	864.	7.70	4732.	7.74	4541.	0.04	-191.	0.50	-4.21
0.	346.	930.	7.80	4668.	7.70	4446.	-0.10	-222.	-1.35	-5.00
0.	353.	1149.	8.70	5266.	8.60	5031.	-0.10	-235.	-1.19	-4.68
-1.	436.	980.	7.80	5919.	7.55	5442.	-0.25	-477.	-3.33	-8.77
-1.	351.	1030.	8.00	5066.	7.81	4750.	-0.19	-316.	-2.49	-6.66
-1.	359.	1097.	8.10	5206.	8.07	4987.	-0.03	-218.	-0.33	-4.38
0.	348.	838.	7.20	4716.	7.29	4403.	0.09	-313.	1.21	-7.11
-1.	357.	927.	7.30	4761.	7.37	4552.	0.07	-209.	0.91	-4.58
-1.	337.	748.	6.70	4153.	6.56	3866.	-0.14	-287.	-2.07	-7.42
0.	439.	1067.	8.60	5874.	8.30	5437.	-0.30	-437.	-3.61	-8.04
-1.	352.	702.	6.50	3704.	6.33	3468.	-0.17	-236.	-2.73	-6.79
1.	385.	772.	7.40	4575.	7.34	4327.	-0.06	-248.	-0.75	-5.74
0.	381.	723.	6.70	4137.	6.75	3993.	0.05	-144.	0.71	-3.61
0.	344.	486.	5.60	3193.	5.47	2951.	-0.13	-242.	-2.42	-8.22

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	ACTUAL DELIVERY A-6E FREEZE DATA DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
0.	361.	641.	6.40	3796.	6.33	3529.	-0.07	-267.	-1.09	-7.57
1.	344.	961.	8.30	4519.	8.15	4312.	-0.15	-207.	-1.87	-4.80
1.	365.	903.	7.90	4592.	7.92	4367.	0.02	-225.	0.27	-5.15
1.	362.	956.	8.20	4694.	8.15	4471.	-0.05	-223.	-0.64	-4.99
1.	379.	933.	8.10	4831.	8.07	4630.	-0.03	-200.	-0.39	-4.33
0.	348.	869.	7.60	4242.	7.43	3943.	-0.17	-299.	-2.32	-7.58
0.	359.	883.	7.70	4504.	7.49	4148.	-0.21	-357.	-2.77	-8.60
0.	354.	884.	7.70	4453.	7.50	4092.	-0.20	-361.	-2.72	-8.83
-1.	344.	892.	7.40	4237.	7.22	3822.	-0.18	-416.	-2.47	-10.87
0.	343.	984.	8.00	4412.	7.93	4160.	-0.07	-251.	-0.94	-6.04
1.	344.	888.	7.80	4289.	7.83	4091.	0.03	-198.	0.40	-4.83
0.	352.	937.	7.80	4391.	7.73	4170.	-0.07	-221.	-0.93	-5.29
0.	367.	943.	8.00	4655.	7.76	4307.	-0.24	-349.	-3.13	-8.10
0.	429.	1197.	9.10	6613.	8.81	6218.	-0.29	-395.	-3.24	-6.35
0.	362.	1181.	8.90	6585.	8.73	5286.	-0.17	-1298.	-2.00	-24.56
0.	355.	959.	8.00	4683.	7.82	4397.	-0.18	-285.	-2.26	-6.49
1.	359.	980.	8.20	4862.	8.25	4687.	0.05	-176.	0.56	-3.75
1.	345.	1088.	8.70	4901.	8.67	4725.	-0.03	-176.	-0.31	-3.72
1.	354.	1056.	8.70	5030.	8.56	4815.	-0.14	-216.	-1.69	-4.48
1.	350.	901.	8.20	5040.	7.90	4346.	-0.30	-694.	-3.86	-15.97
1.	353.	695.	6.90	4041.	6.94	3829.	0.04	-211.	0.51	-5.52
0.	351.	464.	5.50	3308.	5.33	3062.	-0.17	-246.	-3.12	-8.03
0.	351.	498.	5.70	3545.	5.54	3202.	-0.16	-343.	-2.92	-10.71
0.	352.	392.	5.10	3115.	4.87	2847.	-0.23	-268.	-4.65	-9.42
0.	361.	367.	5.00	3149.	4.70	2813.	-0.30	-336.	-6.33	-11.94
0.	343.	453.	5.40	3319.	5.27	3001.	-0.13	-319.	-2.53	-10.62
0.	353.	500.	5.70	3575.	5.55	3209.	-0.15	-366.	-2.70	-11.42
0.	342.	978.	8.00	4290.	7.90	4102.	-0.10	-188.	-1.26	-4.59
1.	342.	913.	7.90	4325.	7.94	4141.	0.04	-183.	0.49	-4.43
1.	329.	936.	8.00	4299.	8.02	4067.	0.02	-233.	0.29	-5.72
0.	329.	943.	7.80	4206.	7.75	3964.	-0.05	-241.	-0.67	-6.09
1.	329.	961.	8.10	4314.	8.13	4116.	0.03	-198.	0.37	-4.82
0.	331.	889.	7.60	4105.	7.51	3841.	-0.09	-264.	-1.15	-6.88
0.	433.	667.	6.60	4572.	6.47	4292.	-0.13	-280.	-2.01	-6.52
0.	377.	1001.	8.20	4766.	8.01	4911.	-0.19	145.	-2.42	2.95
0.	363.	1064.	8.40	5151.	8.26	4814.	-0.14	-338.	-1.66	-7.01
1.	377.	1060.	8.60	5407.	8.60	5186.	0.00	-221.	0.00	-4.26
1.	334.	1072.	8.70	4607.	8.60	4350.	-0.10	-257.	-1.22	-5.90
1.	360.	1741.	11.00	6003.	11.02	5883.	0.02	-120.	0.15	-2.04
1.	357.	1698.	10.80	5932.	10.87	5826.	0.07	-106.	0.68	-1.81

MK-76 MOD-5 WITH NEW COEFFICIENTS

			ACTUAL DELIVERY A-6E FREEZE DATA		NPS MODIFIED BOEING ALGORITHM		DIFFERENCES		PER CENT ERROR	
DEG	TAS	ALT	TIME	DIST	TIME	DIST	TIME	DIST	TIME	DIST
1.	356.	1761.	11.10	5903.	11.07	5818.	-0.03	-85.	-0.23	-1.45
1.	367.	1713.	10.90	6042.	10.94	5916.	0.04	-125.	0.35	-2.12
0.	365.	1712.	10.70	5980.	10.60	5734.	-0.10	-245.	-0.99	-4.28
1.	323.	908.	7.90	4428.	7.89	4239.	-0.01	-189.	-0.06	-4.46
1.	334.	904.	7.90	4500.	7.89	4304.	-0.01	-196.	-0.12	-4.56
0.	513.	521.	6.10	5053.	5.66	4486.	-0.44	-567.	-7.69	-12.64
0.	338.	479.	5.70	3386.	5.43	3049.	-0.27	-338.	-5.05	-11.08
0.	342.	450.	5.50	3279.	5.25	2945.	-0.25	-335.	-4.80	-11.37
-1.	329.	435.	5.20	2928.	4.86	2634.	-0.34	-294.	-6.91	-11.18
0.	328.	391.	4.90	2793.	4.87	2633.	-0.03	-159.	-0.60	-6.06
0.	329.	379.	5.00	2794.	4.79	2570.	-0.21	-225.	-4.38	-8.74
0.	330.	289.	4.30	2594.	4.14	2269.	-0.16	-325.	-3.86	-14.31
0.	350.	337.	4.60	2860.	4.49	2522.	-0.11	-338.	-2.38	-13.42
0.	343.	315.	4.50	2671.	4.33	2439.	-0.17	-233.	-3.83	-9.54
0.	329.	329.	4.70	2680.	4.44	2394.	-0.26	-286.	-5.85	-11.96
1.	338.	462.	5.60	3227.	5.64	3081.	0.04	-146.	0.70	-4.74
0.	426.	864.	7.70	5584.	7.42	5214.	-0.28	-369.	-3.75	-7.08
0.	321.	907.	7.50	4346.	7.59	4180.	0.09	-166.	1.19	-3.98
-1.	361.	1050.	8.10	5103.	7.88	4835.	-0.22	-268.	-2.76	-5.54
-1.	394.	1276.	9.00	6088.	8.75	5736.	-0.25	-351.	-2.87	-6.12
2.	434.	805.	8.00	5451.	7.98	5240.	-0.02	-210.	-0.30	-4.02
0.	356.	612.	6.30	3801.	6.18	3495.	-0.12	-306.	-1.98	-8.76
1.	344.	794.	7.00	3920.	7.40	4064.	0.40	143.	5.46	3.53
0.	343.	892.	7.60	4043.	7.53	3927.	-0.07	-116.	-0.94	-2.95
0.	429.	631.	6.60	4627.	6.28	4195.	-0.32	-432.	-5.07	-10.31
0.	403.	1540.	10.10	6613.	10.05	6344.	-0.05	-269.	-0.52	-4.25
0.	355.	1614.	8.00	4743.	10.27	5793.	2.27	1050.	22.09	18.13
0.	350.	1175.	8.70	5353.	8.70	4997.	-0.00	-355.	-0.02	-7.11
-1.	420.	1732.	10.30	5839.	10.32	6530.	0.02	692.	0.22	10.59
-1.	354.	1428.	9.30	5218.	9.31	4999.	0.01	-219.	0.16	-4.38
-1.	353.	1474.	9.60	5403.	9.48	5124.	-0.12	-279.	-1.31	-5.44
0.	421.	469.	5.60	3993.	5.36	3638.	-0.24	-355.	-4.53	-9.75
0.	338.	515.	5.70	3421.	5.64	3247.	-0.06	-175.	-1.09	-5.39
1.	352.	492.	5.80	3647.	5.83	3457.	0.03	-190.	0.56	-5.50
1.	375.	1506.	10.20	5932.	10.26	5767.	0.06	-165.	0.59	-2.85
0.	326.	1356.	9.50	4896.	9.36	4666.	-0.14	-230.	-1.47	-4.93
0.	341.	1384.	9.60	5158.	9.47	4931.	-0.13	-227.	-1.38	-4.60
0.	324.	1392.	9.50	4958.	9.49	4733.	-0.01	-225.	-0.11	-4.75
0.	324.	1392.	9.50	4958.	9.49	4733.	-0.01	-225.	-0.11	-4.75
0.	356.	997.	8.00	4685.	7.98	4448.	-0.02	-237.	-0.20	-5.33

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	ACTUAL DELIVERY A-6E FREEZE DATA DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
-1.	353.	1017.	7.90	4507.	7.75	4224.	-0.15	-283.	-1.92	-6.70
-1.	340.	999.	7.90	4388.	7.68	4053.	-0.22	-335.	-2.82	-8.26
0.	356.	999.	8.00	4562.	7.99	4360.	-0.01	-202.	-0.10	-4.63
0.	428.	1334.	9.50	6586.	9.33	6258.	-0.17	-328.	-1.81	-5.24
0.	423.	1524.	10.30	6945.	10.00	6613.	-0.30	-332.	-2.96	-5.02
0.	436.	1413.	9.70	6846.	9.62	6588.	-0.08	-258.	-0.81	-3.91
0.	352.	1174.	8.70	5404.	8.69	5195.	-0.01	-209.	-0.06	-4.03
2.	334.	1399.	10.10	5721.	10.15	5276.	0.05	-446.	0.45	-8.45
0.	345.	1206.	8.90	5489.	8.81	5255.	-0.09	-234.	-0.96	-4.46
1.	339.	1151.	9.10	5613.	8.91	5285.	-0.19	-328.	-2.08	-6.20
0.	407.	1022.	8.30	5526.	8.10	5133.	-0.20	-393.	-2.43	-7.66
0.	336.	981.	8.00	4678.	7.91	4435.	-0.09	-243.	-1.12	-5.48
0.	335.	843.	7.30	4359.	7.31	3616.	0.01	-744.	0.11	-20.57
0.	337.	882.	7.40	4280.	7.48	4208.	0.08	-72.	1.12	-1.72
-5.	334.	544.	4.50	2757.	4.47	2556.	-0.03	-200.	-0.62	-7.84
-1.	339.	587.	6.00	3572.	5.74	3224.	-0.26	-348.	-4.51	-10.79
0.	344.	602.	6.10	3671.	6.12	3414.	0.02	-257.	0.39	-7.52
0.	330.	564.	5.90	3424.	5.92	3266.	0.02	-158.	0.28	-4.85
0.	335.	605.	6.20	3569.	6.14	3300.	-0.06	-269.	-0.98	-8.17
0.	340.	553.	5.80	3436.	5.86	3274.	0.06	-162.	0.94	-4.94
0.	451.	767.	7.00	5062.	6.97	4845.	-0.03	-218.	-0.41	-4.49
0.	428.	855.	7.50	5170.	7.38	4878.	-0.12	-292.	-1.62	-5.98
0.	335.	918.	7.70	4283.	7.64	4079.	-0.06	-203.	-0.77	-4.98
0.	331.	919.	7.70	4252.	7.64	4011.	-0.06	-241.	-0.72	-6.01
0.	334.	923.	7.70	4210.	7.66	4018.	-0.04	-192.	-0.48	-4.78
0.	339.	951.	8.00	4460.	7.78	4141.	-0.22	-318.	-2.77	-7.69
0.	355.	1142.	8.80	5012.	8.57	4798.	-0.23	-214.	-2.67	-4.45
-1.	358.	966.	7.80	4221.	7.53	4035.	-0.27	-186.	-3.53	-4.60
0.	380.	1000.	9.10	4879.	8.00	4625.	-1.10	-254.	-13.71	-5.48
0.	369.	955.	8.00	4755.	7.81	4480.	-0.19	-275.	-2.44	-6.13
0.	357.	968.	8.10	4773.	7.86	4458.	-0.24	-315.	-3.03	-7.07
1.	352.	1159.	8.90	4854.	8.96	4537.	0.06	-317.	0.70	-6.99
0.	356.	929.	8.20	4770.	7.69	4252.	-0.51	-519.	-6.58	-12.20
1.	349.	994.	8.60	4676.	8.29	4508.	-0.31	-167.	-3.70	-3.71
0.	340.	1027.	8.30	4781.	8.10	4379.	-0.20	-402.	-2.42	-9.18
-1.	455.	827.	7.00	5103.	6.86	4828.	-0.14	-275.	-2.09	-5.69
0.	353.	949.	7.80	6582.	7.78	4377.	-0.02	-2205.	-0.26	-50.39
0.	355.	1022.	8.20	7884.	8.09	4573.	-0.11	-3311.	-1.39	-72.42
-1.	351.	820.	7.00	6176.	6.89	3878.	-0.11	-2298.	-1.56	-59.26
-1.	361.	926.	7.90	6737.	7.36	4223.	-0.54	-2514.	-7.34	-59.52

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	ACTUAL DELIVERY A-6E FREEZE DATA DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
-1.	354.	858.	7.20	6302.	7.06	3967.	-0.14	-2335.	-1.93	-58.86
0.	362.	875.	7.50	6471.	7.46	4240.	-0.04	-2231.	-0.57	-52.61
1.	432.	1021.	8.50	5770.	8.51	5551.	0.01	-219.	0.08	-3.95
0.	332.	852.	7.50	4021.	7.35	3777.	-0.15	-243.	-2.06	-6.45
0.	427.	735.	6.90	4723.	6.81	4458.	-0.09	-265.	-1.29	-5.95
-2.	340.	723.	6.30	3578.	6.15	3307.	-0.15	-271.	-2.43	-8.20
0.	400.	1041.	8.40	5696.	8.18	5355.	-0.22	-341.	-2.69	-6.37
1.	355.	946.	8.00	5520.	8.10	4900.	0.10	-619.	1.20	-12.64
1.	354.	1118.	9.10	4894.	8.80	4429.	-0.30	-465.	-3.36	-10.50
1.	342.	1002.	8.40	5153.	8.32	4271.	-0.08	-883.	-0.98	-20.66
0.	340.	990.	8.10	4942.	7.95	4064.	-0.15	-878.	-1.88	-21.60
0.	250.	854.	7.60	4551.	7.34	3117.	-0.26	-1433.	-3.52	-45.98
1.	421.	988.	8.30	5543.	8.35	5355.	0.05	-188.	0.66	-3.50
0.	359.	995.	8.20	4726.	7.98	4448.	-0.22	-278.	-2.80	-6.25
1.	341.	1108.	8.80	4855.	8.75	4645.	-0.05	-211.	-0.59	-4.53
0.	352.	954.	7.90	4572.	7.80	4278.	-0.10	-294.	-1.27	-6.87
0.	336.	962.	7.90	4324.	7.83	4119.	-0.07	-205.	-0.88	-4.97
0.	340.	930.	7.80	4321.	7.69	4078.	-0.11	-243.	-1.37	-5.95
0.	340.	951.	7.90	4306.	7.78	4134.	-0.12	-172.	-1.48	-4.16
0.	350.	961.	8.00	4488.	7.83	4247.	-0.17	-242.	-2.17	-5.69
-1.	347.	947.	7.60	4287.	7.46	4026.	-0.14	-261.	-1.89	-6.48
0.	370.	1120.	8.50	5986.	8.49	4782.	-0.01	-1204.	-0.12	-25.17
1.	342.	1091.	8.70	6702.	8.68	4491.	-0.02	-2210.	-0.21	-49.21
0.	338.	1069.	8.40	6523.	8.27	4269.	-0.13	-2254.	-1.51	-52.81
-1.	335.	1101.	8.20	6416.	8.10	4152.	-0.10	-2264.	-1.21	-54.53
1.	337.	1049.	8.50	6546.	8.51	4358.	0.01	-2188.	0.07	-50.20
0.	345.	1159.	8.70	6772.	8.63	4515.	-0.07	-2256.	-0.76	-49.97
0.	341.	1109.	8.60	6689.	8.44	4367.	-0.16	-2322.	-1.94	-53.18
0.	345.	1204.	8.80	6814.	8.81	4564.	0.01	-2250.	0.08	-49.31
1.	334.	1199.	9.00	6734.	9.09	4556.	0.09	-2178.	1.02	-47.81
0.	341.	1091.	8.30	6560.	8.36	4374.	0.06	-2186.	0.77	-49.98
-1.	316.	996.	7.80	6028.	7.69	3757.	-0.11	-2271.	-1.49	-60.44
0.	342.	918.	7.70	7313.	7.64	4011.	-0.06	-3302.	-0.75	-82.33
-1.	350.	1200.	8.70	6866.	8.48	4556.	-0.22	-2310.	-2.59	-50.70
0.	342.	944.	7.70	6239.	7.76	4090.	0.06	-2149.	0.72	-52.53
-1.	334.	897.	7.40	6003.	7.25	3740.	-0.15	-2264.	-2.06	-60.53
-1.	346.	874.	7.30	6057.	7.14	3812.	-0.16	-2245.	-2.23	-58.90
-1.	345.	933.	7.60	6281.	7.40	3926.	-0.20	-2355.	-2.70	-60.00
-1.	343.	910.	7.50	6153.	7.30	3860.	-0.20	-2293.	-2.72	-59.40
0.	345.	951.	7.80	6359.	7.79	4119.	-0.01	-2240.	-0.18	-54.38

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	ACTUAL DELIVERY A-6E FREEZE DATA DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
-1.	342.	1022.	8.00	6409.	7.78	4090.	-0.22	-2319.	-2.86	-56.70
2.	438.	653.	7.20	5078.	7.24	4987.	0.04	-91.	0.51	-1.82
1.	315.	814.	7.80	4120.	7.47	3745.	-0.33	-375.	-4.49	-10.02
1.	321.	749.	7.20	3970.	7.17	3697.	-0.03	-273.	-0.47	-7.39
0.	311.	704.	6.70	3622.	6.65	3375.	-0.05	-247.	-0.79	-7.33
1.	319.	653.	6.70	3622.	6.69	3431.	-0.01	-191.	-0.17	-5.57
0.	341.	905.	7.60	4724.	7.59	4458.	-0.01	-266.	-0.18	-5.96
0.	335.	863.	7.40	4478.	7.40	4279.	-0.00	-199.	-0.02	-4.64
1.	340.	921.	8.00	4701.	7.97	4471.	-0.03	-230.	-0.36	-5.13
1.	355.	918.	8.00	4732.	7.98	4486.	-0.02	-245.	-0.30	-5.47
1.	352.	933.	8.00	4627.	8.04	4456.	0.04	-171.	0.46	-3.84
1.	351.	1075.	8.70	4934.	8.63	4719.	-0.07	-216.	-0.83	-4.57
1.	328.	1087.	8.80	4880.	8.65	4595.	-0.15	-285.	-1.76	-6.21
0.	341.	918.	7.30	4518.	7.64	4248.	0.34	-270.	4.49	-6.35
-2.	335.	573.	6.20	3959.	5.38	3190.	-0.82	-768.	-15.14	-24.09
0.	348.	543.	5.90	2757.	5.80	3529.	-0.10	772.	-1.75	21.87
0.	336.	627.	6.40	6590.	6.26	3697.	-0.14	-2893.	-2.29	-78.24
0.	357.	543.	6.10	6076.	5.80	3682.	-0.30	-2394.	-5.20	-65.00
1.	337.	980.	8.30	4012.	8.22	4768.	-0.08	756.	-0.97	15.86
4.	355.	1102.	8.90	6568.	9.79	6038.	0.89	-530.	9.14	-8.78
1.	290.	604.	6.40	3305.	6.40	3093.	0.00	-212.	0.07	-6.86
1.	351.	798.	7.00	3920.	7.43	3919.	0.43	-1.	5.79	-0.03
1.	361.	781.	6.30	3698.	7.36	4046.	1.06	347.	14.42	8.58
1.	347.	776.	7.20	4067.	7.32	3875.	0.12	-191.	1.68	-4.93
0.	342.	774.	6.00	3393.	6.99	3687.	0.99	294.	14.16	7.98
1.	343.	742.	7.70	4307.	7.16	3761.	-0.54	-545.	-7.60	-14.50
1.	352.	766.	8.00	4526.	7.28	3884.	-0.72	-642.	-9.88	-16.52
2.	440.	780.	8.30	5646.	7.87	5150.	-0.43	-497.	-5.45	-9.64
0.	365.	794.	6.70	3829.	7.09	3918.	0.39	89.	5.46	2.28
0.	346.	812.	7.00	3855.	7.17	3746.	0.17	-110.	2.34	-2.93
1.	365.	804.	7.70	4428.	7.47	4129.	-0.23	-299.	-3.03	-7.23
0.	398.	790.	6.00	3829.	7.07	4282.	1.07	452.	15.18	10.56
0.	441.	820.	7.20	5246.	7.22	5025.	0.02	-222.	0.30	-4.41
-1.	385.	891.	7.30	4767.	7.19	4467.	-0.11	-301.	-1.51	-6.73
-1.	350.	606.	6.00	3701.	5.83	3431.	-0.17	-269.	-2.84	-7.85
0.	459.	1094.	8.80	6357.	8.42	5896.	-0.38	-461.	-4.54	-7.82
0.	366.	911.	7.80	4784.	7.62	4443.	-0.18	-341.	-2.39	-7.68
1.	356.	965.	8.30	5120.	8.18	4751.	-0.12	-369.	-1.48	-7.77
0.	352.	868.	7.60	4426.	7.42	4141.	-0.18	-284.	-2.37	-6.87
0.	367.	921.	7.70	4670.	7.66	4399.	-0.04	-271.	-0.50	-6.16

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	331.	1065.	8.40	4454.	8.26	4214.	-0.14	-240.	-1.74	-5.71
1.	330.	1059.	8.60	4579.	8.54	4395.	-0.06	-184.	-0.73	-4.19
0.	318.	976.	7.90	4178.	7.89	3926.	-0.01	-251.	-0.18	-6.40
0.	340.	972.	7.90	4660.	7.87	3880.	-0.03	-780.	-0.33	-20.10
1.	355.	1178.	9.00	5557.	9.04	5363.	0.04	-193.	0.44	-3.61
0.	349.	938.	7.80	4360.	7.73	4182.	-0.07	-178.	-0.89	-4.25
0.	347.	970.	8.00	4456.	7.87	4250.	-0.13	-205.	-1.68	-4.83
1.	344.	1020.	8.40	4619.	8.40	4454.	-0.00	-164.	-0.05	-3.69
0.	315.	671.	6.60	3567.	6.48	3272.	-0.12	-295.	-1.81	-9.03
0.	317.	773.	7.20	3833.	6.98	3537.	-0.22	-295.	-3.13	-8.35
0.	321.	867.	7.40	4253.	7.41	4010.	0.01	-242.	0.18	-6.04
0.	321.	899.	7.60	4307.	7.56	4088.	-0.04	-219.	-0.59	-5.35
1.	320.	877.	7.80	4363.	7.76	4154.	-0.04	-209.	-0.58	-5.02
0.	322.	918.	7.80	4446.	7.64	3665.	-0.16	-781.	-2.12	-21.31
0.	327.	881.	7.60	4331.	7.48	4062.	-0.12	-270.	-1.64	-6.64
0.	303.	1026.	8.30	4464.	8.09	4196.	-0.21	-268.	-2.61	-6.39
-1.	388.	779.	6.70	4412.	6.68	4194.	-0.02	-218.	-0.37	-5.19
-2.	320.	768.	6.60	3681.	6.40	3348.	-0.20	-333.	-3.17	-9.94
-1.	301.	544.	5.60	2940.	5.54	2727.	-0.06	-214.	-1.14	-7.83
-1.	309.	738.	6.60	3472.	6.54	3237.	-0.06	-236.	-0.97	-7.29
-1.	321.	864.	7.00	3813.	7.11	3642.	0.11	-171.	1.58	-4.71
0.	324.	804.	7.20	4316.	7.13	4008.	-0.07	-308.	-1.02	-7.69
0.	327.	915.	7.70	4488.	7.63	4255.	-0.07	-232.	-0.96	-5.46
0.	330.	767.	7.00	4221.	6.95	3981.	-0.05	-240.	-0.65	-6.02
0.	329.	784.	7.10	4238.	7.03	4011.	-0.07	-228.	-0.93	-5.67
0.	340.	815.	7.30	4537.	7.18	4209.	-0.12	-329.	-1.66	-7.81
0.	331.	793.	7.20	4358.	7.08	4033.	-0.12	-325.	-1.73	-8.07
0.	328.	766.	6.90	4180.	6.95	3969.	0.05	-212.	0.71	-5.34
0.	330.	1113.	8.50	4998.	8.45	4723.	-0.05	-274.	-0.61	-5.81
0.	328.	794.	7.20	4348.	7.08	4070.	-0.12	-278.	-1.67	-6.82
0.	326.	1055.	8.20	4672.	8.21	4506.	0.01	-166.	0.17	-3.69
0.	322.	1035.	8.20	4759.	8.13	4489.	-0.07	-270.	-0.84	-6.02
0.	326.	978.	7.90	4679.	7.90	4427.	-0.00	-252.	-0.05	-5.69
1.	474.	986.	8.50	6637.	8.41	6435.	-0.09	-202.	-1.07	-3.15
0.	344.	744.	6.80	4184.	6.85	3995.	0.05	-189.	0.68	-4.74
1.	354.	1490.	10.20	6142.	10.17	5921.	-0.03	-221.	-0.25	-3.73
0.	351.	1260.	9.00	5538.	9.02	5274.	0.02	-264.	0.24	-5.01
0.	357.	1411.	9.50	5852.	9.57	5629.	0.07	-223.	0.77	-3.97
0.	353.	1419.	9.80	5922.	9.60	5542.	-0.20	-380.	-2.09	-6.86
0.	459.	985.	8.20	6769.	7.96	5945.	-0.24	-824.	-2.98	-13.86

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	ACTUAL DELIVERY A-6E FREEZE DATA DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
0.	332.	1049.	8.30	4919.	8.19	4445.	-0.11	-475.	-1.32	-10.68
0.	351.	1109.	8.50	5295.	8.44	5017.	-0.06	-278.	-0.72	-5.55
0.	354.	907.	7.70	4244.	7.60	3956.	-0.10	-288.	-1.35	-7.27
0.	338.	962.	7.80	4088.	7.83	3905.	0.03	-183.	0.40	-4.68
0.	345.	987.	8.10	4288.	7.94	4001.	-0.16	-287.	-2.03	-7.18
0.	343.	1035.	8.50	4390.	8.14	4068.	-0.36	-322.	-4.45	-7.91
0.	347.	965.	8.00	4365.	7.85	4008.	-0.15	-357.	-1.96	-8.90
2.	327.	1258.	9.50	4694.	9.62	4578.	0.12	-117.	1.22	-2.55
0.	342.	1030.	8.10	4309.	8.12	4096.	0.02	-213.	0.21	-5.20
0.	337.	964.	8.00	4180.	7.84	3893.	-0.16	-287.	-2.05	-7.38
0.	359.	1036.	8.30	4574.	8.15	4297.	-0.15	-277.	-1.88	-6.45
0.	350.	911.	7.70	4161.	7.61	3929.	-0.09	-233.	-1.13	-5.92
0.	353.	1042.	8.40	4542.	8.17	4216.	-0.23	-326.	-2.82	-7.74
0.	468.	966.	8.20	5993.	7.88	5508.	-0.32	-485.	-4.01	-8.80
-3.	440.	853.	6.20	4500.	6.27	4273.	0.07	-226.	1.10	-5.30
-2.	336.	820.	6.80	3915.	6.61	3667.	-0.19	-248.	-2.80	-6.76
1.	353.	997.	8.30	4849.	8.31	4648.	0.01	-200.	0.13	-4.30
0.	439.	907.	7.90	5617.	7.62	5226.	-0.28	-391.	-3.71	-7.48
0.	420.	927.	8.00	5472.	7.70	5165.	-0.30	-307.	-3.88	-5.95
0.	356.	821.	7.40	4363.	7.21	4123.	-0.19	-241.	-2.62	-5.83
2.	386.	1531.	10.70	6399.	10.73	6282.	0.03	-117.	0.28	-1.86
1.	377.	1375.	9.90	5779.	9.80	5624.	-0.10	-155.	-0.99	-2.76
1.	379.	1396.	9.80	6082.	9.88	5881.	0.08	-201.	0.82	-3.42
0.	373.	1274.	9.20	5546.	9.08	5235.	-0.12	-311.	-1.29	-5.94
0.	366.	1446.	9.90	5524.	9.70	5256.	-0.20	-268.	-2.05	-5.10
0.	343.	913.	7.80	7847.	7.62	4183.	-0.18	-3664.	-2.34	-87.61
1.	380.	1050.	8.70	5307.	8.56	5165.	-0.14	-142.	-1.60	-2.75
1.	346.	985.	8.30	4606.	8.25	4520.	-0.05	-85.	-0.58	-1.89
1.	339.	929.	8.10	4413.	8.00	4320.	-0.10	-93.	-1.19	-2.16
1.	342.	902.	7.90	4327.	7.89	4276.	-0.01	-51.	-0.12	-1.19
1.	335.	846.	7.80	4226.	7.63	4095.	-0.17	-131.	-2.18	-3.20
0.	410.	942.	8.00	5175.	7.76	4892.	-0.24	-283.	-3.04	-5.78
0.	355.	1032.	8.10	4647.	8.13	4452.	0.03	-195.	0.36	-4.38
3.	41.	913.	8.10	4478.	7.67	495.	-0.43	-3983.	-5.57	-805.50
0.	342.	1000.	8.20	4541.	7.99	4285.	-0.21	-256.	-2.60	-5.98
-1.	353.	1091.	8.70	4828.	8.05	4347.	-0.65	-482.	-8.04	-11.08
2.	324.	1152.	9.20	4783.	9.21	4623.	0.01	-160.	0.09	-3.47
0.	412.	862.	7.60	4925.	7.41	4730.	-0.19	-195.	-2.57	-4.12
0.	426.	942.	8.10	5480.	7.77	5102.	-0.33	-378.	-4.27	-7.40
0.	403.	807.	7.50	4813.	7.15	4525.	-0.35	-288.	-4.83	-6.36

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	ACTUAL DELIVERY A-6E FREEZE DATA DIST	NPS MODIFIED BOEING ALGORITHM TIME	NPS MODIFIED BOEING ALGORITHM DIST	DIFFERENCES TIME	DIFFERENCES DIST	PER CENT ERROR TIME	PER CENT ERROR DIST
1.	418.	815.	7.80	5561.	7.58	5266.	-0.22	-295.	-2.86	-5.59
1.	420.	998.	8.40	5967.	8.40	5751.	-0.00	-216.	-0.05	-3.75
0.	454.	857.	7.60	4814.	7.40	5465.	-0.20	650.	-2.77	11.90
1.	356.	591.	8.10	5176.	6.40	3992.	-1.70	-1184.	-26.61	-29.65
1.	338.	958.	8.10	4887.	8.13	4670.	0.03	-217.	0.35	-4.64
0.	457.	1135.	8.60	6502.	8.58	6252.	-0.02	-250.	-0.21	-3.99
1.	425.	1031.	8.50	5616.	8.54	5454.	0.04	-162.	0.47	-2.97
1.	372.	835.	7.60	7393.	7.62	4435.	0.02	-2958.	0.32	-66.71
1.	358.	1083.	8.60	6733.	8.67	4795.	0.07	-1939.	0.80	-40.43
0.	376.	1071.	8.60	6644.	8.29	4833.	-0.31	-1811.	-3.68	-37.47
0.	347.	1013.	8.10	5162.	8.05	4858.	-0.05	-304.	-0.64	-6.26
0.	345.	1045.	8.30	5369.	8.18	5041.	-0.12	-328.	-1.47	-6.51
0.	341.	981.	8.00	5005.	7.91	4713.	-0.09	-292.	-1.10	-6.20
0.	340.	970.	7.80	4721.	7.87	4504.	0.07	-217.	0.84	-4.83
-1.	362.	729.	6.40	4116.	6.45	3872.	0.05	-244.	0.82	-6.29
0.	349.	1033.	8.30	4636.	8.13	4326.	-0.17	-310.	-2.07	-7.18
0.	360.	1050.	8.40	4458.	8.20	4128.	-0.20	-330.	-2.38	-7.98
0.	336.	1020.	8.20	4547.	8.07	4204.	-0.13	-343.	-1.56	-8.16
0.	326.	835.	7.30	4269.	7.27	3803.	-0.03	-467.	-0.41	-12.27
1.	328.	896.	7.80	4726.	7.85	4380.	0.05	-346.	0.61	-7.89
0.	321.	739.	7.00	3941.	6.82	3608.	-0.18	-333.	-2.65	-9.23
0.	366.	942.	7.90	5926.	7.75	4580.	-0.15	-1345.	-1.90	-29.37
-1.	409.	536.	5.70	3833.	5.40	3491.	-0.30	-341.	-5.63	-9.78
0.	348.	820.	7.30	4231.	7.21	3972.	-0.09	-259.	-1.31	-6.52
0.	347.	999.	8.10	4603.	7.99	4337.	-0.11	-266.	-1.38	-6.14
0.	343.	718.	6.90	3935.	6.72	3688.	-0.18	-247.	-2.69	-6.70
2.	412.	1348.	10.40	3755.	10.15	6498.	-0.25	2742.	-2.48	42.21
0.	349.	1052.	8.30	4919.	8.21	4617.	-0.09	-302.	-1.11	-6.54
0.	457.	1737.	8.10	6170.	10.74	7754.	2.64	1583.	24.58	20.42
0.	339.	1003.	7.90	4970.	8.00	4730.	0.10	-240.	1.30	-5.07
0.	339.	457.	5.40	3420.	5.29	3139.	-0.11	-280.	-2.04	-8.92
0.	330.	558.	6.00	3718.	5.88	3412.	-0.12	-306.	-1.98	-8.96
0.	344.	600.	6.20	3377.	6.11	3600.	-0.09	223.	-1.42	6.19
0.	438.	1036.	8.40	5747.	8.17	5366.	-0.23	-381.	-2.80	-7.10
0.	349.	1109.	8.60	4773.	8.44	4448.	-0.16	-324.	-1.91	-7.29
-1.	356.	956.	7.70	4448.	7.49	4125.	-0.21	-323.	-2.77	-7.84
0.	342.	957.	8.00	4571.	7.81	4165.	-0.19	-406.	-2.42	-9.74
1.	342.	1226.	9.40	5187.	9.21	4868.	-0.19	-319.	-2.10	-6.55
0.	456.	901.	7.80	5598.	7.59	5205.	-0.21	-393.	-2.70	-7.55
1.	439.	1193.	7.40	5205.	9.21	6195.	1.81	990.	19.64	15.98

MK-76 MOD-5 WITH NEW COEFFICIENTS

DEG	TAS	ALT	ACTUAL DELIVERY A-6E FREEZE DATA TIME	DIST	NPS MODIFIED BOEING ALGORITHM TIME	DIST	DIFFERENCES TIME	DIST	PER CENT ERROR TIME	DIST
0.	347.	868.	7.50	6300.	7.42	4000.	-0.08	-2300.	-1.03	-57.51
0.	332.	867.	7.60	4079.	7.42	3854.	-0.18	-225.	-2.48	-5.83
0.	333.	902.	7.70	6225.	7.57	3945.	-0.13	-2280.	-1.70	-57.80
0.	463.	898.	7.60	5720.	7.58	5440.	-0.02	-280.	-0.22	-5.14
0.	371.	846.	7.40	4664.	7.33	4393.	-0.07	-271.	-0.98	-6.16
0.	356.	756.	7.00	4213.	6.91	3969.	-0.09	-244.	-1.37	-6.15
-1.	345.	731.	6.90	3973.	6.48	3580.	-0.42	-394.	-6.55	-10.99
1.	347.	718.	7.20	4260.	7.04	3867.	-0.16	-393.	-2.23	-10.16
1.	333.	852.	7.20	4429.	7.66	4029.	0.46	-400.	5.98	-9.93
0.	419.	945.	7.70	5408.	7.78	5295.	0.08	-113.	1.02	-2.13
0.	421.	954.	8.00	5711.	7.82	5353.	-0.18	-358.	-2.32	-6.69
0.	425.	858.	7.50	5463.	7.39	5190.	-0.11	-273.	-1.44	-5.26
0.	455.	825.	7.40	5539.	7.25	5217.	-0.15	-322.	-2.10	-6.18
1.	465.	978.	8.60	6487.	8.36	6118.	-0.24	-369.	-2.81	-6.03
0.	428.	933.	7.90	5603.	7.73	5323.	-0.17	-280.	-2.21	-5.27
0.	425.	931.	7.90	5684.	7.72	5268.	-0.18	-416.	-2.33	-7.91
0.	426.	926.	8.00	5756.	7.70	5332.	-0.30	-424.	-3.92	-7.94
0.	419.	945.	8.10	5702.	7.78	5340.	-0.32	-362.	-4.12	-6.79
1.	309.	941.	8.10	4196.	8.02	3878.	-0.08	-318.	-0.98	-8.21
-1.	319.	979.	7.70	4259.	7.61	3999.	-0.09	-260.	-1.15	-6.49
0.	323.	1064.	8.20	5427.	8.25	4037.	0.05	-1390.	0.60	-34.43
0.	336.	891.	7.50	4125.	7.52	3960.	0.02	-165.	0.31	-4.16
0.	326.	847.	7.50	3991.	7.32	3673.	-0.18	-318.	-2.39	-8.66
-1.	323.	906.	7.50	4122.	7.30	3834.	-0.20	-288.	-2.78	-7.50
0.	316.	880.	7.50	4015.	7.47	3793.	-0.03	-221.	-0.40	-5.83
0.	305.	903.	7.50	3907.	7.57	3640.	0.07	-267.	0.91	-7.34
0.	346.	1048.	8.30	4643.	8.19	4335.	-0.11	-309.	-1.32	-7.12
0.	365.	1030.	8.40	4842.	8.12	4541.	-0.28	-300.	-3.40	-6.61
0.	396.	1014.	8.00	4988.	8.07	4866.	0.07	-122.	0.83	-2.50

```
C     FORTRAN VERSION OF BALLISTICS ALGORITHM
C
      COMMON CC(3,3,2), CT(2,2), IDNO, DEG, VKTS, ALT, TABT, TABX, SET,
     1       SWITCH, G, RAD, A, AA, YT, VYK, FRACT, IREF, DTI, DS, VMUZ,
     2       CFORM1, CFORM2, DM1, DM2, DKG1, DKG2, VE, SL, DMAX, ITYPE,
     3       FN, IBOTH, U, DEL, V, THETA, VXA, VYA, CF, DM, DKG, VX, VY,
     4       MSTG, X, T, TH, Y, YA, DTV, D, YO, VXO, VYO, RHO, AP1, AP2,
     5       AN1, AN2, IREG, CKDG, TS, DELT, DELX, PCNTT, PCNTX, LASTID
C
C     INITIALIZE PROGRAM CONSTANTS
      LASTID = 0
      SET = -1.0
      CALL SETDAT
C
C     READ INPUT VARIABLES AND TABULATED RESULTS
   10 SWITCH = -1.0
      CALL IO
      IF (LASTID .EQ. IDNO) GO TO 20
C
C     INITIALIZES ALL WEAPON CONSTANTS
      SET = 0.0
      CALL SETDAT
C
C     INITIALIZES CONSTANTS FOR PARTICULAR WEAPON
      CALL DECODE
C
C     PRINT HEADING INFORMATION AND WEAPON CONSTANTS
      SWITCH = 0.0
      CALL IO
      GC TO 30
C
C     INITIALIZE VARIABLES FOR EACH WEAPON
   20 SET = 1.0
      CALL SETDAT
C
C     CALCULATES TIME OF FALL AND DOWN RANGE TRAVEL
   30 CALL TRAJ
C
C     CCMPUTES ERROR AND STATISTICS
      CALL STATS
C
C     PRINT RESULTS AND STATISTICS
      SWITCH = 1.0
      CALL IO
C
      LASTID = IDNO
      GC TO 10
      END
```

```
      SUBROUTINE IO
      COMMON CC(3,3,2), CT(2,2), IDNO, DEG, VKTS, ALT, TABT, TABX, SET,
     1       SWITCH, G, RAD, A, AA, YT, VYK, FRACT, IREF, DTI, DS, VMUZ,
     2       CFORM1, CFORM2, DM1, DM2, DKG1, DKG2, VE, SL, DMAX, ITYPE,
     3       FN, IBOTH, U, DEL, V, THETA, VXA, VYA, CF, DM, DKG, VX, VY,
     4       MSTG, X, T, TH, Y, YA, DTV, D, YO, VXO, VYO, RHO, AP1, AP2,
     5       AN1, AN2, IREG, CKDG, TS, DELT, DELX, PCNTT, PCNTX, LASTID
C
   10 FORMAT ('1',///////////)
   15 FORMAT (15X,'WEAPON COEFFICIENTS FOR IDNO ',I2,//,
     1       15X,'CFORM1 = ',F9.7,5X,'DKG1 = ',F9.7,5X,'DM1 = ',F9.7,5X,
     2       'VMUZ = ',F6.0,5X,'DS = ',F9.7,/,
     3       15X,'CFORM2 = ',F9.7,5X,'DKG2 = ',F9.7,5X,'DM2 = ',F9.7,5X,
     4       'FN =    ',F6.0,5X,'SL = ',F9.7,//,
     5        15X,'ITYPE =',I3,13X,'IREF =',I2,13X,'VE =   ',F9.7,/,
     6        15X,'IBOTH =',I3,13X,'DMAX = ',F4.2,10X,'DTI = ',F4.2,///)
   20 FORMAT (36X,'NAVAIR 01-1C-1T-1       NPS MODIFIED',/,
     1       36X,'BALLISTICS TABLES     BOEING ALGORITHM      ',
     2       'DIFFERENCES',4X,'PER CENT ERROR',/,15X,
     3       'DEG',3X,'TAS',5X,'ALT',6X,'TIME',5X,'DIST',7X,
     4       'TIME',5X,'DIST',6X,'TIME',3X,'DIST',6X,'TIME',3X,'DIST',/)
   25 FORMAT(11X,2F7.0,F8.0,2(F10.2,F9.0),F10.2,F7.0,F10.2,F7.2)
   30 FORMAT (I2,8X,3F10.0,F10.2,F10.0)
   35 FORMAT ('1')
C
      IF (SWITCH) 40, 50, 60
C
C     READS INPUT VARIABLES AND BALLISTICS TABLE DATA
   40 READ (5,30,END=70) IDNO, DEG, VKTS, ALT, TABT, TABX
      RETURN
C
C     PRINTS OUT HEADING INFORMATION
   50 IF (IDNO .NE. LASTID) GO TO 55
      WRITE (6,10)
      WRITE (6,20)
      NLINES = 0
      RETURN
C
C     PRINTS OUT WEAPON COEFFICIENTS AND HEADING INFORMATION
   55 WRITE (6,10)
      WRITE (6,15) IDNO,CFORM1,DKG1,DM1,VMUZ,DS,CFORM2,DKG2,DM2,FN,SL,
     1            ITYPE,IREF,VE,IBOTH,DMAX,DTI
      WRITE (6,20)
      NLINES = 10
      RETURN
C
C     PRINTS THE RESULTS AND STATISTICS
   60 WRITE (6,25) DEG,VKTS,ALT,TABT,TABX,T,X,DELT,DELX,PCNTT,PCNTX
```

```
      NLINES = NLINES + 1
      IF (NLINES .EQ. 40) GO TO 50
      RETURN
C
C     CLEARS PAGE AT END OF JOB
   70 WRITE (6,35)
      STOP
      END


      SUBROUTINE SETDAT
      COMMON CC(3,3,2), CT(2,2), IDNO, DEG, VKTS, ALT, TABT, TABX, SET,
     1       SWITCH, G, RAD, A, AA, YT, VYK, FRACT, IREF, DTI, DS, VMUZ,
     2       CFORM1, CFORM2, DM1, DM2, DKG1, DKG2, VE, SL, DMAX, ITYPE,
     3       FN, IBOTH, U, DEL, V, THETA, VXA, VYA, CF, DM, DKG, VX, VY,
     4       MSTG, X, T, TH, Y, YA, DTV, D, YO, VXO, VYO, RHO, AP1, AP2,
     5       AN1, AN2, IREG, CKDG, TS, DELT, DELX, PCNTT, PCNTX, LASTID
C
      IF (SET) 1,2,3
C
C     PROGRAM CONSTANTS - SET ONLY ONCE AT BEGINNING OF EXECUTION
    1 G = 32.174
      RAD = 0.0174533
      A = 0.7
      AA = 0.5/A
      YT = 0.0
      VYK = -5.0
      FRACT = 0.5
      RETURN
C
C     WEAPON CONSTANTS - SET ONCE FOR EACH DIFFERENT WEAPON ID NUMBER
    2 CFORM1= 0.0
      CFORM2= 0.0
      DM1= 0.0
      DM2= 0.0
      DKG1= 0.0
      DKG2= 0.0
      VMUZ= 0.0
      FN= 0.0
      VE= 0.0
      SL= 0.0
      DS = 0.0
      DMAX= 5.0
      ITYPE= -1
      IBOTH= 1

C
```

```
C       PROGRAM VARIABLES - SET FOR EACH SET OF INPUT PARAMETERS
      3 U = VKTS * 1.6878
        DEL = ATAN2(VE,U)
        V = SQRT(U*U + VE*VE)
        THETA = DEG * RAD
        VXA = (V+VMUZ) * COS(THETA-DEL)
        VYA = (V+VMUZ) * SIN(THETA-DEL)
        RETURN
        END


        SLBROUTINE DECODE
        COMMON CC(3,3,2), CT(2,2), IDNO, DEG, VKTS, ALT, TABT, TABX, SET,
     1         SWITCH, G, RAD, A, AA, YT, VYK, FRACT, IREF, DTI, DS, VMUZ,
     2         CFORM1, CFORM2, DM1, DM2, DKG1, DKG2, VE, SL, DMAX, ITYPE,
     3         FN, IBOTH, U, DEL, V, THETA, VXA, VYA, CF, DM, DKG, VX, VY,
     4         MSTG, X, T, TH, Y, YA, DTV, D, YO, VXO, VYO, RHO, AP1, AP2,
     5         AN1, AN2, IREG, CKDG, TS, DELT, DELX, PCNTT, PCNTX, LASTID
C
        GC TO (1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,
     1       21,22,23,24,25,26,27,28), IDNO
C
C WEAPON CONSTANTS FOR THE MK 43 UNRETARDED
      1 IREF= 4
        DKG1= 2.5506E-03
        DTI = 3.
        GC TO 31
C
C WEAPON CONSTANTS FOR THE MK 57 UNRETARDED
      2 IREF= 4
        DKG1= 6.2994E-03
        DTI = 3.
        GO TO 31
C WEAPON CONSTANTS FOR THE MK 61 UNRETARDED
      3 IREF= 4
        DKG1= 4.01E-03
        DTI = 3.
        GO TO 31
C
C WEAPOK CONSTANTS FOR THE MK 116 WETEYE
      4 IREF= 2
        DMAX = 3.0
        CFORM1= 3.9235E-03
        DKG1= 2.754E-03
        DTI = 2.
        GC TO 31
C
```

```
C WEAPON CONSTANTS FOR THE MK 76 MOD 5 WITH LUG
    5 IREF= 2
      DMAX = 3.0
      CFORM1= 3.9077E-03
      DKG1= 6.3648E-03
      DTI = 1.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 77 MOD 1,2, AND 4 FIREBOMB
    6 IREF= 4
      DMAX = 2.
      DKG1= 0.021266
      DTI = 1.
      GC TO 31
C
C WEAPON CONSTANTS FOR THE MK 81 CONICAL FIN MECH FUZE
    7 IREF= 1
      CFORM1= 2.5704
      DTI = 3.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 81 SNAKEYE UNRETARDED
    8 IREF= 4
      DMAX = 3.0
      DKG1= 9.767E-03
      DTI = 2.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 82 CONICAL FIN MECH FUZE
    9 IREF= 1
      CFORM1= 2.064
      DTI = 3.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 82 MOD 0 & 1 CONICAL FIN ELEC FUZE
   10 IREF= 1
      CFORM1= 1.4932
      DTI = 3.
      GC TO 31
C
C WEAPON CONSTANTS FOR THE MK 83 CONICAL FIN MECH FUZE
   11 IREF= 1
      CFORM1= 1.3431
      DTI = 1.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 83 CONICAL FIN ELEC FUZE
   12 IREF= 1
```

```
      CFORM1= 1.21
      DTI = 3.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 84 CONICAL FIN MECH AND ELEC FUZE
   13 IREF= 1
      CFORM1= 1.0
      DTI = 3.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 117 A1 WITH M131 TAILFIN
   14 IREF= 1
      CFORM1= 3.12
      DKG1= -1.223E-03
      DTI = 3.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 86 WET SAND FILLED
   15 IREF= 1
      DMAX = 3.
      CFORM1= 3.4972
      DTI = 2.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 88 WET SAND FILLED
   16 IREF=1
      CFORM1= 1.605
      DTI = 3.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 82 SNAKEYE UNRETARDED
   17 IREF= 4
      DMAX = 3.
      DKG1= 0.007329
      DTI = 1.
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 82 SNAKEYE RETARDED
   18 IREF= 1
      ITYPE= 1
      IBOTH= 2
      CFORM2= 1.6895E-02
      DKG1= 7.329E-03
      DKG2= 0.17166
      DM2= 0.38
      DS= 0.6617
      SL= -0.000269
      DTI = 2.0
```

```
      GO TO 31
C
C WEAPCN CONSTANTS FOR THE SADEYE T1 = 4.0
   19 IREF= 1
      ITYPE= 1
      IBOTH= 2
      CFORM1= 2.0754
      CFORM2= 0.2217
      DS = 4.267
      DTI = 1.5
      GC TO 31
C
C WEAPON CONSTANTS FOR THE ROCKEYE II T1 = 4.0
   20 IREF= 1
      ITYPE= 1
      IBOTH= 2
      CFORM1= 2.2973
      CFORM2= 1.1136E-02
      DM1= 0.32
      DM2= 0.41
      DKG1= 8.175E-03
      DKG2= 0.16885
      DS = 4.06
      DTI = 2.0
      GC TO 31
C
C WEAPON CONSTANTS FOR THE CBU T1 = 4.0
   21 IREF= 1
      ITYPE= 1
      IBCTH= 2
      CFORM1= 2.2404
      CFORM2= 0.1178
      DS = 4.0
      DTI = 1.62
      GC TO 31
C
C WEAPON CONSTANTS FOR THE MK 81 SNAKEYE RETARDED
   22 IREF= 1
      ITYPE= 1
      IBOTH= 2
      CFORM2= 2.30625E-02
      DKG1= 9.767E-03
      DKG2= 0.23287
      DM2= 0.38
      DS= 0.679
      SL= -0.000303
      DTI = 1.622
      GO TO 31
```

```
C
C WEAPON CONSTANTS FOR THE GUN
   23 IREF= 3
      DMAX = 1.5
      CFORM1= 2.9964
      DKG1= -0.014992
      VMUZ= 3300.0
      DTI = 0.5
      GC TO 31
C
C WEAPON CONSTANTS FOR THE ROCKETS
   24 IREF= 3
      ITYPE= 2
      CFORM1= 0.82
      CFORM2 = 1.0
      FN= 1746.0
      DS = 1.4225
      DTI = 1.
      GC TO 31
C
C WEAPON CONSTANTS FOR THE MK 43 RETARDED 0.4 SEC DELAY
   25 IREF= 4
      ITYPE= 0
      DS= 0.98
      DKG2= 1.48
      DTI = 0.31
      GC TO 31
C
C WEAPON CONSTANTS FOR THE MK 57 RETARDED 0.8 SEC DELAY
   26 IREF= 4
      ITYPE= 0
      DS= 0.89
      DKG2= 2.0
      DTI = 0.22
      GC TO 31
C
C WEAPON CONSTANTS FOR THE MK 61 RETARDED 0.6 SEC DELAY
   27 IREF= 4
      ITYPE= 0
      DS= 0.89
      DKG2= 2.70
      DTI = 0.1
      GO TO 31
C
C WEAPON CONSTANTS FOR THE MK 106 MOD 4
   28 IREF= 2
      ITYPE= 2
      CFCRM1= 0.1514
```

```
      CFORM2= 0.1514
      DS = 0.5
      DTI = 0.8
C
C SET THE REFERENCE DRAG CURVE COEFFICIENTS AND CUTS
   31 GO TO (32,33,34,51), IREF
   32 CC(1,1,1)= 1.572924E-03
      CC(1,2,1)= 0.0
      CC(1,3,1)= 0.0
      CC(2,1,1)= 4.678409E-02
      CC(2,2,1)=-0.109711069
      CC(2,3,1)= 6.654801E-02
      CC(3,1,1)=-0.116380157
      CC(3,2,1)= 0.217643894
      CC(3,3,1)= -9.767068E-02
      CT(1,1)= 0.834
      CT(2,1)= 0.977
      IF (IBOTH-1) 33,51,33
C
   33 CC(1,1,IBOTH)= 3.53503924
      CC(1,2,IBOTH)=-3.34778216
      CC(1,3,IBOTH)= 2.87262413
      CC(2,1,IBOTH)=11.2616503
      CC(2,2,IBOTH)=-27.4162512
      CC(2,3,IBOTH)= 21.7308359
      CC(3,1,IBOTH)=-23.7915472
      CC(3,2,IBOTH)= 44.2607764
      CC(3,3,IBOTH)=-14.4996046
      CT(1,IBOTH)= 0.622
      CT(2,IBOTH)= 0.885
      GO TO 51
C
   34 CC(1,1,1)=  0.104115
      CC(1,2,1)= -0.230347
      CC(1,3,1)=  0.167644
      CC(2,1,1)= -0.194037
      CC(2,2,1)=  0.401478
      CC(2,3,1)= -0.164612
      CC(3,1,1)=  7.33246E-02
      CC(3,2,1)= -2.03275E-02
      CC(3,3,1)=  2.44682E-03
      CT(1,1)= 1.032
      CT(2,1)= 1.30
   51 RETURN
      END
```

```
      SUBROUTINE TRAJ
      COMMON CC(3,3,2), CT(2,2), IDNO, DEG, VKTS, ALT, TABT, TABX, SET,
     1       SWITCH, G, RAD, A, AA, YT, VYK, FRACT, IREF, DTI, DS, VMUZ,
     2       CFORM1, CFORM2, DM1, DM2, DKG1, DKG2, VE, SL, DMAX, ITYPE,
     3       FN, IBOTH, U, DEL, V, THETA, VXA, VYA, CF, DM, DKG, VX, VY,
     4       MSTG, X, T, TH, Y, YA, DTV, D, YO, VXO, VYO, RHO, AP1, AP2,
     5       AN1, AN2, IREG, CKDG, TS, DELT, DELX, PCNTT, PCNTX, LASTID
C
C INITIALIZE THE VARIABLES FOR THE TRAJECTORY SUBROUTINE
      CF= CFORM1
      DM= DM1
      DKG= DKG1
      MSTG= 1
      X= 0.0
      T= 0.0
      VX= VXA
      VY= VYA
      TH= FN
      Y = ALT
      YA= Y
C
C TYPE OF DRAG
      IF (ITYPE) 2,1,1
C
C SET STEP SIZE FOR FIRST STAGE DRAG
    1 D= DS+SL*U
      GO TO 3
C
C COMPUTE STEP SIZE
    2 D = DMAX
C
C CALL RUNGE KUTTA SUBROUTINE
    3 CALL RUNGE
      DTV = 1/G*(VY+SQRT(VY**2+2.*G*(Y)))
      D = DTI
      IF ((IDNO.LE.17).OR.(IDNO.EQ.23)) GO TO 4
C
C SET THE SECOND STAGE DRAG PARAMETERS
      MSTG = 2
      IF (ITYPE.EQ.2) MSTG = 1
      DKG= DKG2
      DM= DM2
      CF = CFORM2
      TH = 0.0
    4 IF (DTV - D) 5,3,3
C
C SET THE STEP SIZE TO THE VACUMN DROP TIME REMAINING
    5 D= DTV
```

```
C
C SET THE DRAG PARAMETERS FOR THE FINAL INTEGRATION STEP
      IF ((IDNO.LE.17).OR.(IDNO.EQ.23)) GO TO 6
      MSTG= 2
      IF (ITYPE.EQ.2) MSTG = 1
      DKG= DKG2
      DM= DM2
      TH=0.0
      CF= CFORM2
C
C CALL RUNGE FOR THE FINAL INTEGRATION STEP
    6 CALL RUNGE
      DTV = 1/G*(VY+SQRT(VY**2+2.*G*(Y)))
C
C UPDATE THE TIME OF FALL AND THE DOWN RANGE TRAVEL
      T = T + DTV
      X = X +DTV*VX
      RETURN
      END


      SUBROUTINE RUNGE
      COMMON CC(3,3,2), CT(2,2), IDNO, DEG, VKTS, ALT, TABT, TABX, SET,
     1       SWITCH, G, RAD, A, AA, YT, VYK, FRACT, IREF, DTI, DS, VMUZ,
     2       CFORM1, CFORM2, DM1, DM2, DKG1, DKG2, VE, SL, DMAX, ITYPE,
     3       FN, IBOTH, U, DEL, V, THETA, VXA, VYA, CF, DM, DKG, VX, VY,
     4       MSTG, X, T, TH, Y, YA, DTV, D, YO, VXO, VYO, RHO, AP1, AP2,
     5       AN1, AN2, IREG, CKDG, TS, DELT, DELX, PCNTT, PCNTX, LASTID
C
C INITIALIZE THE VARIABLES FOR THE RUNGE KUTTA
      AD = A*D
      YO= Y
      VXO= VX
      VYO= VY
      RHO= 2.37576E-03-Y*(6.87557E-08-Y*6.71618E-13)
      CALL DERIV
C
C UPDATE POSITION AND VELOCITIES
      Y= YO+AD*VY
      RHO= 2.37576E-03-Y*(6.87557E-08-Y*6.71618E-13)
      AP1= AP2
      AN1= AN2
      VX= VXO+AD*AN1
      VY= VYO+AD*AP1
      CALL DERIV
C
C COMPUTE TIME, POSITION AND VELOCITIES
```

```
      T= T+D
      X= X+D*(VXO+AA*(VX-VXO))
      Y= YO+D*(VYO+AA*(VY-VYO))
      VX= VXO+D*(AN1+AA*(AN2-AN1))
      VY= VYC+D*(AP1+AA*(AP2-AP1))
      RETURN
      END


      SLBROUTINE DERIV
      COMMON CC(3,3,2), CT(2,2), IDNO, DEG, VKTS, ALT, TABT, TABX, SET,
     1       SWITCH, G, RAD, A, AA, YT, VYK, FRACT, IREF, DTI, DS, VMUZ,
     2       CFORM1, CFORM2, DM1, DM2, CKG1, DKG2, VE, SL, DMAX, ITYPE,
     3       FN, IBOTH, U, DEL, V, THETA, VXA, VYA, CF, DM, DKG, VX, VY,
     4       MSTG, X, T, TH, Y, YA, DTV, D, YO, VXO, VYO, RHO, AP1, AP2,
     5       AN1, AN2, IREG, CKDG, TS, DELT, DELX, PCNTT, PCNTX, LASTID
C COMPUTE THE TOTAL VELOCITY AND THE MACH OF THE WEAPON
C
      V = SQRT(VX*VX+VY*VY)
      CM= V*(8.9544E-04+3.26E-09*Y)+DM
C
C DETERMINE THE REGION OF THE DRAG CURVE THAT IS APPLICABLE
      IF (CM-CT(1,MSTG)) 10,10,20
   10 IREG= 1
      GC TO 50
   20 IF (CM-CT(2,MSTG)) 30,30,40
   30 IREG= 2
      GC TO 50
   40 IREG= 3
C
C DO INTERMECIATE BALLISTIC CALCULATION
   50 CKDG = DKG + CF *
     1       (CC(IREG,1,MSTG)+(CC(IREG,2,MSTG)+CC(IREG,3,MSTG)*CM)*CM)
      HH= TH/V-RHO*CKDG*V
      AN2= HH*VX
      AP2= HH*VY-G
      RETURN
      END
```

```
      SUBROUTINE STATS
      COMMON CC(3,3,2), CT(2,2), IDNO, DEG, VKTS, ALT, TABT, TABX, SET,
     1       SWITCH, G, RAD, A, AA, YT, VYK, FRACT, IREF, DTI, DS, VMUZ,
     2       CFORM1, CFORM2, DM1, DM2, DKG1, DKG2, VE, SL, DMAX, ITYPE,
     3       FN, IBOTH, U, DEL, V, THETA, VXA, VYA, CF, DM, DKG, VX, VY,
     4       MSTG, X, T, TH, Y, YA, DTV, D, YO, VXO, VYO, RHO, AP1, AP2,
     5       AN1, AN2, IREG, CKDG, TS, DELT, DELX, PCNTT, PCNTX, LASTID
C
C     CCMPUTES DIFFERENCE BETWEEN SIMULATION AND BALLISTICS TABLES
      DELT = T - TABT
      DELX = X - TABX
C     COMPUTES PER CENT ERROR OF TIME OF FALL AND DOWN RANGE TRAVEL
      PCNTT = DELT * 100.0 / TABT
      PCNTX = DELX * 100.0 / TABX
      RETURN
      END
```

```
/* PLM VERSION OF THE BALLISTICS ALGORITHM */

100H:
     /* PROGRAM DECLARATIONS */
     DECLARE BDOS LITERALLY '3FFDH',
             BOOT LITERALLY '0',
             LF LITERALLY '10',
             CR LITERALLY '13',
             TRUE LITERALLY '1',
             FOREVER LITERALLY 'WHILE TRUE',
             IBFCB (33) BYTE INITIAL (0,'INPUT   DAT',0,0,0,0),
             OBFCB (33) BYTE INITIAL (0,'OUTPUT  DAT',0,0,0,0),
             INPUT$BUFFER (128) BYTE,
             OUTPUT$BUFFER (128) BYTE,
             OUTPTR BYTE INITIAL (255),
             IDNO BYTE,
             (DEG,ALT,VKTS,TM,X) (3) BYTE;

     /********** PROCEDURE CALLS TO THE DISK OPERATING SYSTEM *********/

MON1: PROCEDURE (F,A);
     DECLARE F BYTE, A ADDRESS;
     GO TO BDOS;
     RETURN;
     END MON1;

MON2: PROCEDURE (F,A) BYTE;
     DECLARE F BYTE, A ADDRESS;
     GO TO BDOS;
     END MON2;

PRINT: PROCEDURE (A);
     DECLARE A ADDRESS;
     CALL MON1 (9,A);
     RETURN;
     ENC PRINT;

PRINTCHAR: PROCEDURE(CHAR);
     DECLARE CHAR BYTE;
     CALL MON1(2,CHAR);
     RETURN;
     END PRINTCHAR;

CRLF: PROCEDURE;
     CALL PRINTCHAR(CR);
     CALL PRINTCHAR(LF);
     RETURN;
     ENC CRLF;
```

```
DISK$ERROR: PROCEDURE;
     CALL CRLF;
     CALL PRINT (.'DISK ERROR     $');
     CALL CRLF;
     GO TO BOOT;
     END DISK$ERROR;

CONVERT$ERROR: PROCEDURE;
     CALL CRLF;
     CALL PRINT (.'CONVERSION ERROR    $');
     CALL CRLF;
     GO TO BOOT;
     END CONVERT$ERROR;

DISKWRITE: PROCEDURE (FCB) BYTE;
     DECLARE FCB ADDRESS;
     IF MON2(21,FCB) <> 0 THEN CALL DISK$ERROR;
     END DISKWRITE;

DISKREAD: PROCEDURE (FCB) BYTE;
     DECLARE FCB ADDRESS;
     IF MON2(20,FCB) <> 0 THEN CALL DISK$ERROR;
     END DISKREAD;

SETDMA: PROCEDURE (A);
     DECLARE A ADDRESS;
     CALL MON1 (26,A);
     RETURN;
     END SETDMA;

MAKE: PROCEDURE (FCB);
     DECLARE FCB ADDRESS;
     CALL MON1 (19,FCB);
     IF MON2 (22,FCB) = 255 THEN CALL DISK$ERROR;
     RETURN;
     END MAKE;

OPEN: PROCEDURE (FCB);
     DECLARE FCB ADDRESS;
     IF MON2(15,FCB) = 255 THEN CALL DISK$ERROR;
     RETURN;
     END OPEN;

CLOSE: PROCEDURE (FCB);
     DECLARE FCB ADDRESS;
     IF MON2(16,FCB) = 255 THEN CALL DISK$ERROR;
     RETURN;
```

```
     ENC CLOSE;

BEGINNING: PROCEDURE;
     CALL CRLF;
     CALL PRINT(.'EXECUTION BEGINS    $');
     CALL CRLF;
     CALL MAKE (.OBFCB);
     OBFCB(32) = 0;
     CALL OPEN (.IBFCB);
     IBFCB(32) = 0;
     RETURN;
     END BEGINNING;

TERMINATE: PROCEDURE;
          DO WHILE OUTPTR < 127;
          OUTPUT$BUFFER (OUTPTR := OUTPTR + 1) = 30H;
          END;
     CALL SETDMA (.OUTPUT$BUFFER);
     IF DISKWRITE (.OBFCB) <> 0 THEN CALL DISK$ERROR;
     CALL CLOSE (.OBFCB);
     CALL CRLF;
     CALL PRINT (.'PROGRAM COMPLETE    $');
     CALL CRLF;
     GO TO BOOT;
     ENC TERMINATE;

GET$NEXT$BYTE: PROCEDURE BYTE;
     DECLARE INPTR BYTE INITIAL (127);
     IF INPTR >= 127 THEN
          DO;
          CALL SETDMA (.INPUT$BUFFER);
          IF CISKREAD (.IBFCB) <> 0 THEN CALL DISK$ERROR;
          INPTR = 255;
          END;
     RETURN INPUT$BUFFER (INPTR := INPTR + 1);
     ENC GET$NEXT$BYTE;

INPUT: PROCEDURE;
     DECLARE I BYTE;
     IF (IDNO := GET$NEXT$BYTE) = 0 THEN CALL TERMINATE;
          DO I = 0 TO 2;
          DEG(I) = GET$NEXT$BYTE;
          END;
          DO I = 0 TO 2;
          VKTS(I) = GET$NEXT$BYTE;
          END;
          DO I = 0 TO 2;
          ALT(I) = GET$NEXT$BYTE;
```

```
          END;
      RETURN;
      END INPUT;

HEX$TO$ASCII: PROCEDURE(HEX$CHAR) BYTE;
      DECLARE (HEX$CHAR,ASCII$CHAR) BYTE;
      IF (HEX$CHAR >= 00H) AND (HEX$CHAR <= 09H) THEN
            ASCII$CHAR = HEX$CHAR + 30H;
      ELSE
            IF (HEX$CHAR >= 0AH) AND (HEX$CHAR <= 0FH) THEN
                  ASCII$CHAR = HEX$CHAR + 37H;
            ELSE CALL CONVERT$ERROR;
      RETURN ASCII$CHAR;
      ENC HEX$TO$ASCII;

PUT$NEXT$BYTE: PROCEDURE (TWO$HEX$CHAR);
      DECLARE (TWO$HEX$CHAR,ASCII1,ASCII2) BYTE;
      ASCII2 = HEX$TO$ASCII (TWO$HEX$CHAR AND 0FH);
      ASCII1 = HEX$TO$ASCII (SHR(TWO$HEX$CHAR,4) AND 0FH);
      IF OUTPTR = 127 THEN
            DO;
            CALL SETDMA (.OUTPUT$BUFFER);
            IF DISKWRITE (.OBFCB) <> 0 THEN CALL DISK$ERROR;
            OUTPTR = 255;
            END;
      OUTPUT$BUFFER (OUTPTR := OUTPTR + 1) = ASCII1;
      OUTPUT$BUFFER (OUTPTR := OUTPTR + 1) = ASCII2;
      RETURN;
      END PUT$NEXT$BYTE;

OUTPUT: PROCEDURE;
      DECLARE I BYTE;
            DO I = 0 TO 2;
            CALL PUT$NEXT$BYTE (TM(I));
            END;
            DO I = 0 TO 2;
            CALL PUT$NEXT$BYTE (X(I));
            END;
      RETURN;
END OUTPUT;

      /******* END OF PROCEDURE CALLS TO THE DISK OPERATING SYSTEM *****/

      /************* MATHEMATICAL FLOATING POINT PACKAGE *************/

 /* VARIABLES GLOBAL TO THE FLOATING POINT PACKAGE */
      DECLARE ZE BYTE, ZZ ADDRESS,
              YE BYTE, XE BYTE;
```

```
ADJUST: PROCEDURE;
 /* PROCEDURE TO LEFT JUSTIFY MANTISSA IN BINARY */
    DECLARE I BYTE;
         DO I = 0 TO 15;
         IF (ZZ AND 8000H) = 8000H THEN RETURN;
         ZZ = SHL(ZZ,1);
         ZE = ZE - 1;
         END;
    ENC ADJUST;

ADD: PROCEDURE (XA,YA,ZA);
    DECLARE (XA,YA,ZA,XX,YY) ADDRESS,
               (XE,YE,RANGE,SIGNSEQUAL) BYTE,
               X BASED XA BYTE,
               Y BASED YA BYTE,
               Z BASED ZA BYTE;

    /* DETERMINE DIFFERENCE IN EXPONENTS */
    XE = X(2) AND 7FH;
    YE = Y(2) AND 7FH;
    IF XE > YE THEN RANGE = XE - YE;
    ELSE RANGE = YE - XE;

    /* CHECK TO SEE IF NUMBERS ARE WITHIN SIGNIFICANCE RANGE */
    IF RANGE > 15 THEN
         DO;
         /* VARIABLES NOT WITHIN SIGNIFICANCE RANGE */
         IF XE > YE THEN
              DO;
              Z = X;   Z(1) = X(1);   Z(2) = X(2);
              RETURN;
              END;
         Z = Y;   Z(1) = Y(1);   Z(2) = Y(2);
         RETURN;
         END;

    /* VARIABLES ARE WITHIN RANGE OF SIGNIFICANCE */

    /* FORM MANTISSA */
    XX = SHL(DOUBLE(X),8) OR X(1);
    YY = SHL(DOUBLE(Y),8) OR Y(1);
    IF (X(2) AND 80H) = (Y(2) AND 80H) THEN SIGNSEQUAL = 1;
    ELSE SIGNSEQUAL = 0;

    /* EXPONENTS EQUAL */
    IF XE = YE THEN
         DO;
```

```
    /* Y > X */
    IF YY > XX THEN
        DO;
        ZE = Y(2);
        IF SIGNSEQUAL THEN GO TO EXIT1;
        GO TO EXIT2;
        END;

    /* X > Y */
    IF YY < XX THEN
        DO;
        ZE = X(2);
        IF SIGNSEQUAL THEN GO TO EXIT1;
        GO TO EXIT3;
        END;

    /* X = Y */
    IF SIGNSEQUAL THEN
        DO;
        Z = X;   Z(1) = X(1);   Z(2) = X(2) + 1;
        RETURN;
        END;
    Z = 0;   Z(1) = 0;   Z(2) = 0;
    RETURN;
    END;

/* EXPONENT OF X > EXPONENT OF Y */
IF XE > YE THEN
    DO;
    ZE = X(2);
    YY = SHR(YY,RANGE);
    IF SIGNSEQUAL THEN GO TO EXIT1;
    GO TO EXIT3;
    END;

/* EXPONENT OF Y > EXPONENT OF X */
ZE = Y(2);
XX = SHR(XX,RANGE);
IF SIGNSEQUAL THEN GO TO EXIT1;
GO TO EXIT2;

/* WHEN SIGNS OF THE MANTISSA ARE EQUAL THE NUMBERS ARE ADDED */
EXIT1:
    ZZ = XX + YY;
    IF CARRY THEN
        DO;
        ZZ = SCR(ZZ,1);
```

```
                ZE = ZE + 1;
                END;
            Z = HIGH(ZZ);    Z(1) = LOW(ZZ);    Z(2) = ZE;
            RETURN;

        /* WHEN THE SIGNS ARE DIFFERENT AND Y > X */
        EXIT2:
            ZZ = YY - XX;
            CALL ADJUST;
            Z = HIGH(ZZ);    Z(1) = LOW(ZZ);    Z(2) = ZE;
            RETURN;

        /* WHEN SIGNS ARE DIFFERENT AND X > Y */
        EXIT3:
            ZZ = XX - YY;
            CALL ADJUST;
            Z = HIGH(ZZ);    Z(1) = LOW(ZZ);    Z(2) = ZE;
            RETURN;
        END ADD;

SUB: PROCEDURE (XA,YA,ZA);
 /* FLOATING POINT SUBTRACTION ROUTINE */
        DECLARE (XA,YA,ZA) ADDRESS,
                YY BASED YA BYTE,
                YYMINUS (3) BYTE;

        YYMINUS = YY;
        YYMINUS(1) = YY(1);
        YYMINUS(2) = YY(2) XOR 80H;
        CALL ADD (XA,.YYMINUS,ZA);
        RETURN;
        END SUB;

MULT: PROCEDURE (XA,YA,ZA);
 /* FLOATING POINT MULTIPLY ROUTINE */
        DECLARE (XA,YA,ZA,XX,YY) ADDRESS,
                I BYTE,
                X BASED XA BYTE,
                Y BASED YA BYTE,
                Z BASED ZA BYTE;

        /* IF EITHER NUMBER IS ZERO THEN RETURN A ZERO */
        IF (X=0) OR (Y=0) THEN
            DO;
            Z = 0;   Z(1) = 0;   Z(2) = 0;
            RETURN;
            END;
```

```
    /* IF NUMBERS ARE NON-ZERO */
    XX = SHL(DOUBLE(X),8) OR X(1);
    YY = SHL(DOUBLE(Y),8) OR Y(1);
    ZZ = 7FFFH;

        DO I=0 TO 14;
        YY = SCR(YY,1);
        IF CARRY THEN ZZ = ZZ + XX;
        ZZ = SCR(ZZ,1);
        END;

    ZZ = ZZ + XX;

    IF CARRY THEN
        DO;
        ZZ = SCR(ZZ,1);
        ZE = 0;
        END;
    ELSE   ZE = -1;

    /* ADD EXPONENTS */
    Z(2) = ((X(2) AND 7FH) + (Y(2) AND 7FH) -40H + ZE)
           OR ((X(2) AND 80H)
           XOR (Y(2) AND 80H));
    Z = HIGH(ZZ);
    Z(1) = LOW(ZZ);
    RETURN;
    END MULT;

COMPARE: PROCEDURE (XA,YA) BYTE;
 /* FLOATING POINT COMPARISION ROUTINE */
 /* X < Y   COMAPRE = 0 */
 /* X = Y   COMPARE = 1 */
 /* X > Y   COMAPRE = 2 */
    DECLARE (XA,YA,XX,YY) ADDRESS,
            X BASED XA BYTE,
            Y BASED YA BYTE,
            (XSIGN,YSIGN) BYTE;

    XSIGN = X(2) AND 80H;
    YSIGN = Y(2) AND 80H;

    /* SIGNS EQUAL */
    IF (XSIGN = YSIGN) THEN
        DO;
        XE = X(2) AND 7FH;
        YE = Y(2) AND 7FH;
        XX = SHL(DOUBLE(X),8) OR X(1);
```

```
        YY = SHL(DOUBLE(Y),8) OR Y(1);

        /* SIGNS POSITIVE */
        IF XSIGN = 0 THEN
           DO;
           IF XE > YE THEN RETURN 2;
           IF XE < YE THEN RETURN 0;
           IF XX > YY THEN RETURN 2;
           IF XX < YY THEN RETURN 0;
           RETURN 1;
           END;

        /* SIGNS NEGATIVE */
        IF XE > YE THEN RETURN 0;
        IF XE < YE THEN RETURN 2;
        IF XX > YY THEN RETURN 0;
        IF XX < YY THEN RETURN 2;
        RETURN 1;
        END;

     /* SIGNS UNEQUAL */
     IF XSIGN = 0 THEN RETURN 2;
     RETURN 0;
     END COMPARE;

DIV: PROCEDURE (XA,YA,ZA);
 /* FLOATING POINT DIVIDE ROUTINE */
     DECLARE (XA,YA,ZA,XX,YY,TEMP) ADDRESS,
             X BASED XA BYTE,
             Y BASED YA BYTE,
             Z BASED ZA BYTE,
             (I,SGN) BYTE,
             C (3) BYTE;

     IF X = 0H THEN
        DO;
        Z = 0H;   Z(1) = 0H;   Z(2) = 0H;
           RETURN;
        END;

     SGN = (X(2) AND 80H) XOR (Y(2) AND 80H);
     XE = X(2) AND 7FH;
     YE = Y(2) AND 7FH;
     ZE = XE - YE + 40H;
     XX = SHL(DOUBLE(X),8) OR X(1);
     YY = SHL(DOUBLE(Y),8) OR Y(1);

     IF XX = YY THEN
```

```
        DO;
        ZZ = 8000H;    ZE = ZE + 1;
        GO TO EXIT;
        END;

    IF YY > XX THEN YY = SHR(YY,1);
    ELSE ZE = ZE + 1;

    ZZ = 0H;
        DO I = 1 TO 16;
        TEMP = XX - YY;

        IF CARRY THEN
            DO;
            IF XX > 80H THEN YY = SHR(YY,1);
            ELSE XX = SHL(XX,1);
            ZZ = SHL(ZZ,1);
            END;
        ELSE
            DO;
            ZZ = SHL(ZZ,1) + 1;
            XX = SHL(TEMP,1);
            END;
        END;

    /* OVERFLOW/UNDERFLOW */
    EXIT:
        IF ZE > 7FH THEN
            DO;
            IF XE > YE THEN
                DO;
                Z = OFFH;   Z(1) = OFFH;   Z(2) = SGN OR 07FH;
                END;
            ELSE
                DO;
                Z = 0;   Z(1) = 0;   Z(2) = 0;
                END;
            RETURN;
            END;
        Z = HIGH(ZZ);   Z(1) = LOW(ZZ);   Z(2) = SGN OR ZE;
        RETURN;
    END DIV;

SQRT: PROCEDURE (XA,ZA);
 /* FLOATING POINT SQUAREROOT ROUTINE */
 /* ASSUME VARIABLE IS POSITIVE REAL NUMBER */
    DECLARE (XA,ZA) ADDRESS,
            X BASED XA BYTE,
```

```
                Z BASED ZA BYTE,
                R BYTE,
                B (3) BYTE,
                T (3) BYTE;

        ZE = X(2) - 40H;
        /* INITIAL APPROXIMATION OF ROOT IS */
        /*        (1+MANT)/2 * EXP/2          */

        IF ZE < 80H THEN T(2) = SHR(ZE,1) + 40H;
        ELSE T(2) = 40H - SHR(-ZE,1);

        ZZ = SHL(DOUBLE(X),8) OR X(1);
        ZZ = SHR(ZZ,1) OR 8000H;
        T = HIGH(ZZ);
        T(1) = LOW(ZZ);

            DO R = 1 TO 3;
            CALL DIV (XA,.T,.B);
            CALL ADD (.B,.T,.T);
            T(2) = T(2) - 1;
            END;

        Z = T;    Z(1) = T(1);    Z(2) = T(2);
        RETURN;
        END SQRT;

    COS$SIN: PROCEDURE (THA,MAGA);
     /* FLOATING POINT COSINE AND SINE FUNCTION */
     /*     0.0 <= THETA <= PI/2      */
        DECLARE (THA,MAGA) ADDRESS,
                N BYTE,
                MAG BASED MAGA BYTE,
                THETA BASED THA BYTE,
                DIF (3) BYTE,
                TEMP (3) BYTE,

                ORD DATA (80H,00H,3DH,0C0H,00H,3EH,0A0H,00H,3FH,
                0E0H,00H,3FH,90H,00H,40H,0B0H,00H,40H,0D0H,00H,40H,
                0F0H,00FH,40H,88H,00H,41H,98H,00H,41H,0A8H,00H,41H,
                0B8H,00H,41H,0C8H,00H,41H),

                COS DATA (0FFH,80H,40H,0FBH,83H,40H,0F3H,9AH,40H,
                0E7H,0E3H,40H,0D8H,8FH,40H,0C5H,0D9H,40H,0B0H,0CH,40H,
                97H,81H,40H,0F9H,2FH,3FH,0BFH,7AH,3FH,82H,0C8H,3FH,
                88H,17H,3EH,87H,0EDH,3AH),

                SIN DATA (0FFH,0D5H,3CH,0BEH,0E1H,3EH,9DH,69H,3FH,
```

```
            0D8H,0ECH,3FH,88H,87H,40H,0A2H,76H,40H,0B9H,0DCH,40H,
            0CEH,5BH,40H,0DFH,0A3H,40H,0EDH,6DH,40H,0F7H,82H,40H,
            0FDH,0BBH,40H,0FFH,0FEH,40H);

      IF THETA(2) > 3DH THEN
           DO;
           ZE = 8 - (THETA(2)-3DH);
           N = 3 * SHR(THETA,ZE);
           END;
      ELSE   N = 0;

      CALL SUB (THA,.ORD(N),.DIF);
      CALL MULT (.DIF,.COS(N),.TEMP);
      TEMP(2) = TEMP(2) - 1;
      CALL ADD (.TEMP,.SIN(N),.TEMP);
      CALL MULT (.TEMP,.DIF,.TEMP);
      CALL SUB (.COS(N),.TEMP,MAGA);
      END COS$SIN;

TRIG: PROCEDURE (XA,YA,THA);
 /* FLOATING POINT TRIGNOMETRY ROUTINE */
      DECLARE (XA,YA,THA) ADDRESS,
              I BYTE,
              X BASED XA BYTE,
              Y BASED YA BYTE,
              TH BASED THA BYTE,
              TEMP (3) BYTE,
              THETA (3) BYTE,
              PITWO DATA (0C9H,10H,43H),
              MPIHALF DATA (0C9H,10H,0C1H);

      THETA = TH;   THETA(1) = TH(1);   THETA(2) = TH(2);

      IF THETA = 0 THEN
                DO;
                X=80H;  X(1)=00H;  X(2)=41H;
                Y=00H;  Y(1)=00H;  Y(2)=00H;
                RETURN;
                END;

           DO WHILE THETA(2) > 80H;
           CALL ADD (.THETA,.PITWO,.THETA);
           END;

           DO WHILE THETA(2) > 43H;
           CALL SUB (.THETA,.PITWO,.THETA);
           END;
```

```
        DO CASE COMPARE (.THETA,.PITWO);
        /* COMPARE = 0     THETA LESS THAN TWO PI */
        ;
        /* COMPARE = 1     THETA EQUALS TWO PI */
            DO;
            X=80H;   X(1)=00H;   X(2)=41H;
            Y=00H;   Y(1)=00H;   Y(2)=00H;
            RETURN;
            END;
        /* COMPARE = 2     THETA GREATER THAN TWO PI */
        CALL SUB (.THETA,.PITWO,.THETA);
        END; /* CASE */

    I = 0;
        DO WHILE THETA(2) < 80H;
        TEMP = THETA;    TEMP(1) = THETA(1);    TEMP(2) = THETA(2);
        I = I + 1;
        CALL ADD (.THETA,.MPIHALF,.THETA);
        END; /* WHILE */

    THETA(2) = THETA(2) AND 7FH;

        DO CASE I-1;
        /*  I = 1   */
            DO;
            CALL COS$SIN (.TEMP ,XA);
            CALL COS$SIN (.THETA,YA);
            END;
        /*  I = 2   */
            DO;
            CALL COS$SIN (.THETA,XA);
            X(2) = X(2) OR 80H;
            CALL COS$SIN (.TEMP ,YA);
            END;
        /*  I = 3   */
            DO;
            CALL COS$SIN (.TEMP ,XA);
            X(2) = X(2) OR 80H;
            CALL COS$SIN (.THETA,YA);
            Y(2) = Y(2) OR 80H;
            END;
        /*  I = 4   */
            DO;
            CALL COS$SIN (.THETA,XA);
            CALL COS$SIN (.TEMP ,YA);
            Y(2) = Y(2) OR 80H;
            END;
        END; /* CASE */
```

```
        RETURN;
        END TRIG;

        /********* END OF MATHEMATICAL FLOATING POINT PACKAGE ***********/

        /********************** BALLISTICS PROGRAM **********************/

 /* DECLARATION STATEMENTS FOR THE SETDAT PROCEDURE*/
DECLARE (G,RAD,A1,AA,YT,VYK,FRACT) (3) BYTE;
DECLARE (DS2,CFORM1,CFORM2,DM1,DM2,DKG1,DKG2,VMUZ,VE,SL,FN,    DMAX) (3) BYTE;
DECLARE (ITYPE,IBOTH,J,SET) BYTE;
DECLARE (U,DEL,TEMP1X,TEMP2X,TEMP3,TEMP4,TEMP5,TEMP6,TEMP7,V,THETA,VXA,VYA)
        (3) BYTE;
 /* DECLARATION STATEMENTS FOR THE DECODE PROCEDURE*/
DECLARE (IREF      ) BYTE;
DECLARE (DTI,DS) (3) BYTE;
DECLARE (CC) (81) BYTE;
DECLARE (CT) (18) BYTE;
 /* DECLARATION STATEMENTS FOR THE TRAJ PROCEDURE */
DECLARE (CF,DM,DKG,VX,VY,TH,Y,YA,   D,DTV) (3) BYTE;
DECLARE (SWITCH,MSTG,TABLE1) BYTE;
DECLARE (TEMP1A,TEMP2A,TEMP3A,TEMP4A,TEMP5A,TEMP6A,TEMP7A) (3) BYTE;
 /* DECLARATION STATEMENTS FOR THE RUNGE PROCEDURE */
DECLARE (AD,YO,VXO,VYO,RHO,AP1,AP2,AN1,AN2) (3) BYTE;
DECLARE (TEMP1B,TEMP2B,TEMP3B,TEMP4B,TEMP5B,TEMP6B) (3) BYTE;
 /* DECLARATION STATEMENTS FOR THE DERIV PROCEDURE */
DECLARE (CM,HH,CKDG) (3) BYTE;
DECLARE (IREG,BASEADDRESS) BYTE;
SETDAT: PROCEDURE;
DECLARE CONSTANTS1 (21) BYTE
        INITIAL (080H,0B2H,046H,08EH,0FAH,03BH,0B3H,033H,040H,0B6H,0DBH,040H,
                000H,000H,000H,0A0H,000H,0C3H,080H,000H,040H);
DECLARE CONSTANTS2 (6) BYTE
        INITIAL (000H,000H,000H,0A0H,000H,043H);
DECLARE CONSTANTS3 (2) BYTE
        INITIAL (3,1);
DECLARE PI2 (3) BYTE
        INITIAL (0C9H,00FH,043H);
 /* SET THE CONSTANTS TO THEIR SELECTED VALUES */
                  DO J=0 TO 2 BY 1;
        G(J)= CONSTANTS1(J);
        RAD(J)= CONSTANTS1(J+3);
        A1(J)= CONSTANTS1(J+6);
        AA(J)= CONSTANTS1(J+9);
        YT(J)= CONSTANTS1(J+12);
        VYK(J)= CONSTANTS1(J+15);
        FRACT(J)= CONSTANTS1(J+18); END;
 /* SET THE VARIABLES AS ASSIGNED IN THE DECODE PROCEDURE */
```

```
                  DO J=0 TO 2 BY 1;
     CFORM1(J)= CONSTANTS2(J);
     CFCRM2(J)= CONSTANTS2(J);
     DM1(J)= CONSTANTS2(J);
     DM2(J)= CONSTANTS2(J);
     DKG1(J)= CONSTANTS2(J);
     DKG2(J)= CONSTANTS2(J);
     VMUZ(J)= CONSTANTS2(J);
     VE(J)= CONSTANTS2(J);
     SL(J)= CONSTANTS2(J);
     FN(J)= CONSTANTS2(J);
     TM(J)= CONSTANTS2(J);
     DMAX(J)= CONSTANTS2(J+3); END;
     ITYPE= CONSTANTS3(0);
     IBCTH= CCNSTANTS3(1);
DECLARE CONVERT (3) BYTE
     INITIAL (0D8H,009H,041H);
 /* CONVERT KNOTS TO FEET PER SECOND     U= VKTS(IV)*1.6878     */
     CALL MULT(.CONVERT,.VKTS,.U);
 /* APPROXIMATE THE ARCTAN FUNCTION */
     CALL DIV(.VE,.U,.DEL);
 /* DETERMINE THE VELOCITY  V=U+1/2*(VE**2)/U  APPROX TO SQRT(U**2+VE**2)  */
     CALL MULT(.VE,.VE,.TEMP1X);
     CALL DIV(.TEMP1X,.U,.TEMP2X);
     CALL MULT(.TEMP2X,.FRACT,.TEMP3);
     CALL ADD(.TEMP3,.U,.V);
 /* CALCULATE THE DIVE ANGLE     THETA= DEG(IANG)*RAD     */
     CALL MULT(.RAD,.DEG,.THETA);
 /* IF THE DIVE ANGLE IS NEGATIVE, ADD IT TO 2PI */
        IF (THETA(2) AND 80H) <> 0 THEN DO;
         CALL ADD(.THETA,.PI2,.THETA);
      END;
 /* CALCULATE THE VELOCITY IN BOTH THE X AND Y DIRECTIONS  */
 /* VXA= (V+VMUZ)* COS(THETA-DEL) */
 /* VYA= (V+VMUZ)* SIN(THETA-DEL) */
     CALL SUB(.THETA,.DEL,.TEMP4);
      CALL TRIG (.TEMP5,.TEMP7,.TEMP4);
     CALL ADD(.V,.VMUZ,.TEMP6);
     CALL MULT(.TEMP6,.TEMP5,.VXA);
     CALL MULT(.TEMP6,.TEMP7,.VYA);     RETURN;
END SETCAT;
DECODE: PROCEDURE;
DECLARE (START,ONE,TWO,THREE,FOUR) LABEL;
 /* DECLARE THE STARTING POSITION OF THE VARIOUS WPN COEFF */
 DECLARE IDVEC (28) ADDRESS
  INITIAL(0,13,26,39,52,65,78,91,104,117,130,143,156,169,182,195,208,221,
          254,287,320,353,386,419,452,485,518,551);
 /* DECLARE THE MUZZLE VELOCITY AND THRUST VECTOR */
```

```
DECLARE VMFN (6) BYTE
  INITIAL(0CEH,040H,04CH,0DAH,040H,04BH);
 /* DECLARE THE CC MATRIX OF DRAG COEFFICIENTS */
DECLARE CCVALUE (81) BYTE
  INITIAL(0CEH,02AH,037H,000H,000H,000H,000H,000H,000H,0BFH,0A0H,03CH,
          0E0H,0B0H,0BDH,088H,04AH,03DH,0EEH,058H,0BDH,0DEH,0DEH,03EH,
          0C8H,007H,0BDH,0E2H,03EH,042H,0D6H,042H,0C2H,0B7H,0D9H,042H,
          0B4H,02FH,044H,0DBH,054H,0C5H,0ADH,0D8H,045H,0BEH,055H,0C5H,
          0B1H,00BH,046H,0E7H,0FCH,0C4H,0D5H,03AH,03DH,0EBH,0E0H,0BEH,
          0ABH,0AAH,03EH,0C6H,0B1H,0BEH,0CDH,08EH,03FH,0A8H,090H,0BEH,
          096H,02BH,03DH,0A6H,085H,0BBH,0A0H,05AH,038H);
 /* DECLARE THE MACH CUT MATRIX CT */
DECLARE CTVALUE (18) BYTE
  INITIAL(0D5H,081H,040H,0FAH,01CH,040H,09FH,03BH,040H,0E2H,08FH,040H,
          084H,018H,041H,0A6H,066H,041H);
 /* DECLARE THE WPNCODE MATRIX CONTAINING THE VARIABLE FOR EACH WPN */
DECLARE WPNCODE (585) BYTE
 /* WEAPON CONSTANTS FOR THE MK 43 UNRETARDED */
  INITIAL(4,000H,000H,000H,0A7H,027H,038H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 57 UNRETARDED */
          4,000H,000H,000H,0CEH,06BH,039H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 61 UNRETARDED */
          4,000H,000H,000H,083H,066H,039H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 116 WETEYE */
          2,080H,090H,039H,0B4H,07CH,038H,0C0H,000H,042H,080H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 76 WITH LUG */
          2,080H,00CH,039H,0D0H,090H,039H,0C0H,000H,042H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 77 FIREBOMB */
          4,000H,000H,000H,0AEH,036H,03BH,080H,000H,042H,080H,000H,041H,
 /* WEAPON CONSTANTS FOR THE MK 81 */
          1,0A4H,081H,042H,000H,000H,000H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 81 SNAKEYE UNRETARDED */
          4,000H,000H,000H,0A0H,005H,03AH,0C0H,000H,042H,080H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 82 MECH FUZE */
          1,084H,018H,042H,000H,000H,000H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 82 ELECT FUZE */
          1,0BFH,021H,041H,000H,000H,000H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 83 MECH FUZE */
          1,0ABH,0EAH,041H,000H,000H,000H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 83 ELEC FUZE */
          1,09AH,0E1H,041H,000H,000H,000H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 84 */
          1,080H,000H,041H,000H,000H,000H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 117 AL */
          1,0C7H,0AEH,042H,0A0H,04DH,0B7H,0A0H,000H,043H,0C0H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 86 WET SAND FILLED */
          1,0DFH,0D2H,042H,000H,000H,000H,0C0H,000H,042H,080H,000H,042H,
 /* WEAPON CONSTANTS FOR THE MK 88 WET SAND FILLEC */
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        1,0CDH,070H,041H,000H,000H,000H,0A0H,000H,043H,0C0H,000H,042H,
/* WEAPCN CONSTANTS FOR THE MK 82 SNAKEYE UNRETARDED */
        4,000H,000H,000H,0F0H,028H,039H,0C0H,000H,042H,080H,000H,041H,
/* WEAPON CONSTANTS FOR THE MK 82 SNAKEYE RETARDED */
        1,000H,000H,000H,0F0H,028H,039H,000H,000H,000H,080H,000H,042H,
      1,2,000H,000H,000H,08AH,067H,03BH,0C2H,08FH,03FH,0AFH,0C7H,03EH,
          0A9H,065H,040H,08DH,008H,0B5H,
/* WEAPON CONSTANTS FOR THE SADEYE T1= 4.0 */
        1,084H,0D3H,042H,000H,000H,000H,000H,000H,000H,0C0H,000H,041H,
      1,2,000H,000H,000H,0E3H,005H,03EH,000H,000H,000H,000H,000H,000H,
          088H,08BH,043H,000H,000H,000H,
/* WEAPON CONSTANTS FOR THE ROCKEYE II T1= 4.0 */
        1,093H,006H,042H,085H,0F0H,03AH,000H,000H,000H,080H,000H,042H,
      1,2,0A3H,0D7H,03FH,0B6H,073H,03AH,0D1H,0EBH,03FH,0ACH,0E7H,03EH,
          081H,0FBH,043H,000H,000H,000H,
/* WEAPCN CONSTANTS FOR THE CBU T1= 4.0 */
        1,08FH,062H,042H,000H,000H,000H,000H,000H,000H,0CFH,05CH,041H,
      1,2,000H,000H,000H,0F1H,041H,03DH,000H,000H,000H,000H,000H,000H,
          080H,000H,043H,000H,000H,000H,
/* WEAPON CONSTANTS FOR THE MK 81 SNAKEYE RETARDED */
        1,000H,000H,000H,0A0H,005H,03AH,000H,000H,000H,0CFH,09DH,041H,
      1,2,000H,000H,000H,0BCH,0EDH,03BH,0C2H,08FH,03FH,0EEH,075H,03EH,
          0ADH,0D2H,040H,09EH,0DBH,0B5H,
/* WEAPON CONSTANTS FOR THE 20 MM GUN */
        3,0BFH,0C5H,042H,0F5H,0A1H,0BAH,0C0H,000H,041H,080H,000H,040H,
      3,1,C00H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,
          000H,000H,000H,000H,000H,000H,
/* WEAPON CONSTANTS FOR THE 5 INCH ROCKETS */
        3,0D1H,0EBH,040H,000H,000H,000H,000H,000H,000H,080H,000H,041H,
      2,1,000H,000H,000H,080H,000H,041H,000H,000H,000H,000H,000H,000H,
          0B6H,014H,041H,000H,000H,000H,
/* WEAPON CONSTANTS FOR THE MK 43 RETARDED 0.4 SEC DELAY */
        4,000H,000H,000H,000H,000H,000H,000H,000H,000H,09EH,0B8H,03FH,
      0,1,000H,000H,000H,000H,000H,000H,000H,000H,000H,0BDH,070H,041H,
          0FAH,0E1H,040H,000H,000H,000H,
/* WEAPON CONSTANTS FOR THE MK 57 RETARDED 0.8 SEC DELAY */
        4,000H,000H,000H,000H,000H,000H,000H,000H,000H,0E1H,047H,03EH,
      0,1,000H,000H,000H,000H,000H,000H,000H,000H,000H,080H,000H,042H,
          0E3H,0D7H,040H,000H,000H,000H,
/* WEAPCN CONSTANTS FOR THE MK 61 RETARDED 0.6 SEC DELAY */
        4,000H,000H,000H,000H,000H,000H,000H,000H,000H,0CCH,0CCH,03DH,
      0,1,000H,000H,000H,000H,000H,000H,000H,000H,000H,0ACH,0CCH,042H,
          0E3H,0D7H,040H,000H,000H,000H,
/* WEAPON CONSTANTS FOR THE MK 106 MOD 2 */
        2,09BH,008H,03EH,000H,000H,000H,000H,000H,000H,0CCH,0CCH,040H,
      2,1,000H,000H,000H,09BH,008H,03EH,000H,000H,000H,000H,000H,000H,
          080H,000H,040H,000H,000H,000H);
/* ASSIGN THE REFERENCE VALUE FROM THE WPNCODE */
```

```
    IREF= WPNCODE(IDVEC(IDNO-1));
 /* ASSIGN THE VARIABLES THEIR RESPECTIVE VALUES FROM THE WPNCODE */
    DO J=0 TO 2 BY 1;
     CFORM1(J)= WPNCODE(IDVEC(IDNO-1)+1+J);
     DKG1(J)= WPNCODE(IDVEC(IDNO-1)+4+J);
     DMAX(J)= WPNCODE(IDVEC(IDNO-1)+7+J);
     DTI(J)= WPNCODE(IDVEC(IDNO-1)+10+J);
    END;
 /* DECIDE IF SINGLE DRAG WEAPON AND THEN BRANCH ACCORDINGLY */
IF (IDNO <= 17) THEN GO TO START; ELSE DO;
 /* ASSIGN THE SECOND PORTION OF THE VARIABLES FOR DUAL STAGE WPNS */
     ITYPE= WPNCODE(IDVEC(IDNO-1)+13);
     IBOTH= WPNCODE(IDVEC(IDNO-1)+14);
    DO J=0 TO 2 BY 1;
     DM1(J)= WPNCODE(IDVEC(IDNO-1)+15+J);
     CFORM2(J)= WPNCODE(IDVEC(IDNO-1)+18+J);
     DM2(J)= WPNCODE(IDVEC(IDNO-1)+21+J);
     DKG2(J)= WPNCODE(IDVEC(IDNO-1)+24+J);
     DS(J)= WPNCODE(IDVEC(IDNO-1)+27+J);
     SL(J)= WPNCODE(IDVEC(IDNO-1)+30+J);
    END; END;
 /* IF IDNO=23 ASSIGN THE MUZZLE VELOCITY TO VMUZ */
IF (IDNO = 23) THEN DO J=0 TO 2 BY 1; VMUZ(J)= VMFN(J); END;
 /* IF THE IDNO=24 ASSIGN THE THRUST TO FN */
IF (IDNO = 24) THEN DO J=0 TO 2 BY 1; FN(J)= VMFN(J+3); END;
 /* BRANCH TO THE APPROPRIATE SECTION OF THE CC MATRIX */
START: IF (IREF = 1) THEN GO TO ONE;
       IF (IREF = 2) THEN GO TO TWO;
       IF (IREF = 3) THEN GO TO THREE;
       IF (IREF = 4) THEN GO TO FOUR;
ONE: DO J=0 TO 53 BY 1; CC(J)= CCVALUE(J); END;
     DO J=0 TO 11 BY 1; CT(J)= CTVALUE(J); END;
     GO TO FOUR;
TWO: DO J=0 TO 26 BY 1; CC(J)= CCVALUE(J+27); END;
     DO J=0 TO 5 BY 1; CT(J)= CTVALUE(J+6); END;
     GO TO FOUR;
THREE: DO J=0 TO 26 BY 1; CC(J)= CCVALUE(J+54); END;
       DO J=0 TO 5 BY 1; CT(J)= CTVALUE(J+12); END;
FOUR: RETURN;
END DECODE;
DERIV: PROCEDURE;
DECLARE (TEMP1C,TEMP2C,TEMP3C,TEMP4C,TEMP5C) (3) BYTE;
DECLARE CONSTANTS6 (6) BYTE
     INITIAL (0EAH,0BBH,036H,0E0H,006H,024H);
DECLARE (EIGHT,NINE,TEN) LABEL;
 /* COMPUTE THE VELOCITY OF THE WEAPON  V= SQRT(VX*VX+VY*VY)  */
    CALL MULT(.VX,.VX,.TEMP1C);
    CALL MULT(.VY,.VY,.TEMP2C);
```

```
    CALL ADD(.TEMP1C,.TEMP2C,.TEMP3C);
    CALL SQRT(.TEMP3C,.V);
 /* COMPUTE THE MACH OF THE WEAPON  CM= V*(8.955E-04+3.26E-09*Y)+DM  */
    DO J=0 TO 2 BY 1;
     TEMP1C(J)= CONSTANTS6(J);
     TEMP2C(J)= CONSTANTS6(J+3);
    END;
    CALL MULT(.Y,.TEMP2C,.TEMP3C);
    CALL ADD(.TEMP3C,.TEMP1C,.TEMP4C);
    CALL MULT(.V,.TEMP4C,.TEMP5C);
    CALL ADD(.TEMP5C,.DM,.CM);
 /* DETERMINE THE REGION OF THE DRAG CURVE WHICH IS APPLICABLE */
 IF (2 = COMPARE(.CM,.CT(MSTG))) THEN GO TO EIGHT;
    IREG=0; GO TO TEN;
EIGHT:  IF (2 = COMPARE(.CM,.CT(MSTG+3))) THEN GO TO NINE;
    IREG= 9; GO TO TEN;
NINE:  IREG= 18;
 /* DO THE INTERMEDIATE BALLISTIC CALCULATIONS */
 /* CKDG=DKG+CF*(CC(IREG,1,MSTG)+(CC(IREG,2,MSTG)+CC(IREG,3,MSTG)*CM)*CM)  */
TEN:  BASEADDRESS= TABLE1+IREG;
    CALL MULT(.CM,.CC(BASEADDRESS+6),.TEMP1C);
    CALL ADD(.TEMP1C,.CC(BASEADDRESS+3),.TEMP2C);
    CALL MULT(.CM,.TEMP2C,.TEMP3C);
    CALL ADD(.TEMP3C,.CC(BASEADDRESS),.TEMP4C);
    CALL MULT(.CF,.TEMP4C,.TEMP5C);
    CALL ADD(.TEMP5C,.DKG,.CKDG);
 /* HH= TH/V-RHO*CKDG*V  */
    CALL MULT(.V,.CKDG,.TEMP1C);
    CALL MULT(.TEMP1C,.RHO,.TEMP2C);
    CALL DIV(.TH,.V,.TEMP3C);
    CALL SUB(.TEMP3C,.TEMP2C,.HH);
 /* AN2= HH*VX  */
    CALL MULT(.HH,.VX,.AN2);
 /* AP2= HH*VY-G */
    CALL MULT(.HH,.VY,.TEMP4C);
    CALL SUB(.TEMP4C,.G,.AP2);
RETURN; END DERIV;
RUNGE: PROCEDURE;
DECLARE CONSTANTS5 (9) BYTE
  INITIAL(09BH,0B2H,038H,093H,0A6H,029H,0BDH,00BH,018H);
 /* CALCULATE THE AD VALUE      AD= A*D     */
    CALL MULT(.A1,.D,.AD);
 /* ASSIGN THE VARIABLES THEIR INITIAL VALUES     */
    DO J=0 TO 2 BY 1;
     YC(J)= Y(J);
     VXO(J)= VX(J);
     VYC(J)= VY(J);
    END;
```

```
 /* CALCULATE THE AIR DENSITY      RHO=2.37E-03-Y*(6.87E-08-Y*6.71E-13) */
     DO J=0 TO 2 BY 1;
      TEMP1B(J)= CONSTANTS5(J);
      TEMP2B(J)= CONSTANTS5(J+3);
      TEMP3B(J)= CONSTANTS5(J+6);
     END;
     CALL MULT(.Y,.TEMP3B,.TEMP4B);
     CALL SUB(.TEMP2B,.TEMP4B,.TEMP5B);
     CALL MULT(.Y,.TEMP5B,.TEMP6B);
     CALL SUB(.TEMP1B,.TEMP6B,.RHO);
 /* MAKE THE FIRST CALL TO THE DERIV PROCEDURE */
CALL DERIV;
 /* UPDATE THE POSITIONS AND THE VELOCITIES     */
 /* Y= YO+AD*VY */
     CALL MULT(.AD,.VY,.TEMP1B);
     CALL ADD(.TEMP1B,.YO,.Y);
     DO J=0 TO 2 BY 1;
      AP1(J)= AP2(J);
      AN1(J)= AN2(J);
     END;
 /* VX= VXO+AD*AN1 */
     CALL MULT(.AN1,.AD,.TEMP1B);
     CALL ADD(.VXO,.TEMP1B,.VX);
 /* VY= VYO+AD*AP1 */
     CALL MULT(.AP1,.AD,.TEMP2B);
     CALL ADD(.VYO,.TEMP2B,.VY);
 /* CALCULATE THE AIR DENSITY      RHO=2.37E-03-Y*(6.87E-08-Y*6.71E-13) */
     DO J=0 TO 2 BY 1;
      TEMP1B(J)= CONSTANTS5(J);
      TEMP2B(J)= CONSTANTS5(J+3);
      TEMP3B(J)= CONSTANTS5(J+6);
     END;
     CALL MULT(.Y,.TEMP3B,.TEMP4B);
     CALL SUB(.TEMP2B,.TEMP4B,.TEMP5B);
     CALL MULT(.Y,.TEMP5B,.TEMP6B);
     CALL SUB(.TEMP1B,.TEMP6B,.RHO);
 /* MAKE THE SECOND CALL TO THE DERIV PROCEDURE     */
CALL DERIV;
 /* COMPUTE THE TIME, POSITION AND VELOCITIES     */
 /* T= T+D  */
     CALL ADD(.TM,.D,.TM);
 /* X= X+D*(VXO+AA*(VX-VXO))  */
     CALL SUB(.VX,.VXO,.TEMP2B);
     CALL MULT(.AA,.TEMP2B,.TEMP3B);
     CALL ADD(.VXO,.TEMP3B,.TEMP4B);
     CALL MULT(.TEMP4B,.D,.TEMP5B);
     CALL ADD(.X,.TEMP5B,.X);
 /* Y= YO+D*(VYO+AA*(VY-VYO))  */
```

```
     CALL SUB(.VY,.VYO,.TEMP2B);
     CALL MULT(.AA,.TEMP2B,.TEMP3B);
     CALL ADD(.VYO,.TEMP3B,.TEMP4B);
     CALL MULT(.TEMP4B,.D,.TEMP5B);
     CALL ADD(.YO,.TEMP5B,.Y);
 /* VX= VXO+D*(AN1+AA*(AN2-AN1))   */
     CALL SUB(.AN2,.AN1,.TEMP2B);
     CALL MULT(.TEMP2B,.AA,.TEMP3B);
     CALL ADD(.TEMP3B,.AN1,.TEMP4B);
     CALL MULT(.D,.TEMP4B,.TEMP5B);
     CALL ADD(.VXO,.TEMP5B,.VX);
 /* VY= VYC+D*(AP1+AA*(AP2-AP1))   */
     CALL SUB(.AP2,.AP1,.TEMP2B);
     CALL MULT(.TEMP2B,.AA,.TEMP3B);
     CALL ADD(.AP1,.TEMP3B,.TEMP4B);
     CALL MULT(.D,.TEMP4B,.TEMP5B);
     CALL ADD(.VYO,.TEMP5B,.VY);
RETURN;
END RUNGE;
TRAJ: PROCEDURE;
DECLARE (FIVE,SIX,SEVEN) LABEL;
DECLARE CONSTANTS4 (4) BYTE
     INITIAL (000H,000H,000H,0);
 /* INITIALIZE THE VARIABLES FOR THE TRAJECTORY PROCEDURE  */
     MSTG= CONSTANTS4(3);
     TABLE1= CONSTANTS4(3);
     DO J=0 TO 2 BY 1;
     CF(J)= CFORM1(J);
     DM(J)= DM1(J);
     DKG(J)= DKG1(J);
     VX(J)= VXA(J);
     VY(J)= VYA(J);
     TH(J)= FN(J);
     Y(J)= ALT(J);
     YA(J)= Y(J);
     X(J)= CONSTANTS4(J);
     TM(J)= CONSTANTS4(J);
     END;
 /* DETERMINE THE TYPE OF DRAG */
 IF (ITYPE=3) THEN GO TO FIVE;
 /* CALCULATE THE STEP SIZE  D=DS+SL*U  */
     CALL MULT(.SL,.U,.TEMP1A);
     CALL ADD(.TEMP1A,.DS,.D);
      GO TO SIX;
 /* SET THE STEP SIZE TO THE MAX ALLOWED  D= DMAX  */
 FIVE: DO J=0 TO 2 BY 1; D(J)= DMAX(J); END;
 /* CALL THE RUNGE PROCEDURE FOR THE INTEGRATION */
  SIX: CALL RUNGE;
```

```
 /* CALCULATE THE DTV VALUE  DTV= 1/G*(VY+SQRT(VY**2+2.*G*Y))  */
      CALL MULT(.G,.Y,.TEMP2A);
      TEMP3A= TEMP2A; TEMP3A(1)= TEMP2A(1); TEMP3A(2)= TEMP2A(2)+1;
      CALL MULT(.VY,.VY,.TEMP4A);
      CALL ADD(.TEMP4A,.TEMP3A,.TEMP5A);
      CALL SQRT(.TEMP5A,.TEMP6A);
      CALL ADD(.TEMP6A,.VY,.TEMP7A);
      CALL DIV(.TEMP7A,.G,.DTV);
      DO J=0 TO 2 BY 1; D(J)= DTI(J); END;
IF (IDNC <= 17) THEN GO TO SEVEN;
IF (IDNC = 23) THEN GO TO SEVEN;
 /* SET THE SECOND STAGE DRAG PARAMETERS */
      MSTG=6; TABLE1=27;
      IF (ITYPE=2) THEN DO; MSTG=0; TABLE1= 0; END;
      DO J=0 TO 2 BY 1;
       DKG(J)= DKG2(J);
       DM(J)= DM2(J);
       CF(J)= CFORM2(J);
       TH(J)= CONSTANTS4(J); END;
 /* TEST THE STEP SIZE VERSUS THE VACUMN FALL STEP SIZE  */
 SEVEN: IF (0<>COMPARE(.DTV,.D)) THEN GO TO SIX;
 /* SET THE STEP SIZE TO THE VACUMN VALUE */
      DO J=0 TO 2 BY 1;
       D(J)= DTV(J);
      END;
 /* SET THE DRAG PARAMETERS FOR THE FINAL INTEGRATION STEP */
      MSTG= 6; TABLE1= 27;
      IF (ITYPE=2) THEN DO; MSTG= 0; TABLE1=0; END;
      DO J=0 TO 2 BY 1;
       DKG(J)= DKG2(J);
       DM(J)= DM2(J);
       TH(J)= CONSTANTS4(J);
       CF(J)= CFORM2(J);
      END;
 /* CALL RUNGE FOR THE FINAL INTEGRATION  */
CALL RUNGE;
 /* CALCULATE THE DTV VALUE  DTV= 1/G*(VY+SQRT(VY**2+2.*G*Y))  */
      CALL MULT(.G,.Y,.TEMP2A);
      TEMP3A= TEMP2A; TEMP3A(1)= TEMP2A(1); TEMP3A(2)= TEMP2A(2)+1;
      CALL MULT(.VY,.VY,.TEMP4A);
      CALL ADD(.TEMP4A,.TEMP3A,.TEMP5A);
      CALL SQRT(.TEMP5A,.TEMP6A);
      CALL ADD(.VY,.TEMP6A,.TEMP7A);
      CALL DIV(.TEMP7A,.G,.DTV);
 /* UP CATE THE TIME OF FALL OF THE WEAPON  TM= TM+DTV  */
      CALL ADD(.DTV,.TM,.TM);
 /* UP-CATE THE DOWN RANGE TRAVEL OF THE WEAPON  X= X+DTV*VX  */
      CALL MULT(.DTV,.VX,.TEMP2A);
```

```
      CALL ADD(.X,.TEMP2A,.X);
RETURN;
END TRAJ;

      /* PROGRAM STARTS HERE */
      CALL BEGINNING;
           DO FOREVER;
           CALL INPUT;
           CALL SETDAT;
           CALL DECODE;
           CALL TRAJ;
           CALL OUTPUT;
           END; /* FOREVER */
EOF
     /****************** END OF BALLISTICS PROGRAM ******************/
```

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c.1 Verification and
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gorithm.